AGGRESSION AS LEARNED BEHAVIOR

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In animal studies, the modification of aggressive behavior by learning processes has been amply documented (cf., e.g., Cairns, 1972; Hutchinson, 1972; Kuo, 1960; Scott, 1958, 1973). Both the acquisition and the extinction of aggressive responses evidently are greatly influenced by reinforcement contingencies. More specifically, the learning of aggression has been shown to follow the classical and the instrumental conditioning paradigms, and it has been suggested that respondent and operant processes in aggression can operate concurrently (e.g., Ulrich et al., 1973). Concerning human aggression, no one seems to deny that learning is critically involved in the acquisition and maintenance of hostile and aggressive modes of behavior. There is considerable disagreement and controversy, however, with regard to the adequacy of explanatory attempts that rest solely or primarily on the basic learning paradigms. There are investigators who seem to feel that human aggression is indeed controlled by the very mechanisms that control aggression in any other animal species and who consequently advocate the straightforward application of these mechanisms to human aggression (e.g., Ulrich et al., 1973). But there are many others who stress the mediating function of complex cognitive structures in humans and who assign limited explanatory value to the use of the basic learning paradigms alone (e.g., Bandura, 1973a; Feshbach, 1970; Pepitone, 1964; Zimbardo, 1969). Zimbardo has stressed the element of volition in aggression, viewing man as unique among animals because his capacity to determine his own behavior may largely defy reinforcement control. Bandura, on the other hand, has advanced the development of more specific learning mechanisms to accommodate those facets of human hostile and aggressive behavior that seem to elude strict reinforcement control (Zillmann, 1979).

Instrumental Learning of Aggression

Based on his experimental work on aggression in animals, Scott (1958) concluded that the “motivation for fighting is strongly increased by success, and that the longer success continues, the stronger the motivation becomes”. In terms of learning theory, this proposal translates to the statement that the likelihood for aggression to occur increases as aggression is reinforced. Given the enormous amount of research support for the reinforcement formulation in general (e.g., Honig, 1966), one might consider its application to aggression noncontroversial. At closer inspection, however, this turns out not to be the case.

Without the basic notion being challenged in any way, there is considerable controversy over what, exactly, constitutes reinforcement in successful aggression. Scott’s experiments have convincingly demonstrated that success in fighting is reinforcing, but they have left it unclear which specific aspect of success constitutes the critical reinforcer (Zillmann, 1979).

1. Alleviation of Aversion vs. Attainment of Rewards

If successful fighting in animals is conceived of as an exchange of potentially injurious behavior that, for the successful animal, terminates with the submission, the escape, or the incapacitation of the defeated animal, success may be considered to be composed of at least the following elements: (a) the diminution or cessation of the acute aversive state associated with the hostile and aggressive confrontation; (b) the diminution or cessation of any pain that
may have been inflicted upon the successful fighter in the course of fighting; (c) access to the valued but scarce resources, such as food, a mate, or shelter, that were in dispute and thus led to the fighting; and (d) the submissive displays of the defeated animal, escape as a form of this display, or the infliction of injury upon the defeated animal. How much, if anything, do these various elements contribute to the reinforcement value of success; and which element, if any, plays the dominant, crucial role? Since totally unambiguous data do not exist on this point, answers to this question seem to be very much a matter of theoretical orientation. Investigators who espouse the notion of aggressive drive in one form or another, and who consequently conceive of the infliction of injury as a consummatory response, tend to claim that the infliction of injury is the drive-reducing act and hence, that it is the critical reinforcer of aggression. We have seen earlier that both Berkowitz (e.g., 1969a) and Feshbach (e.g., 1970) advocate such a view. Interestingly, entirely unrelated to drive considerations, Skinner (e.g., 1969) has made himself a rather radical proponent of this idea that injury is the ultimate reinforcer of aggression. His views, which are seldom acknowledged in the aggression literature, are discussed in some detail later.

The proposal that the infliction of injury constitutes the primary reinforcer of aggression is in apparent conflict with the fact that intraspecific fighting rarely leads to injury. From the most prevalent consequences of such fighting, one would tend to conclude that submission or flight is its principal reinforcer. This, oddly enough, has not been claimed. In contrast to those who have emphasized the reinforcing role of injury, many investigators (e.g., Patterson & Reid, 1970; Scott, 1958) have suggested that aggression is primarily reinforced by the termination of the noxious state associated with fighting. This termination usually coincides with the physical separation of the antagonistic parties and is thus confounded with it. It is important to recognize that the beneficial effect of the disengagement of the aggressive parties is brought about by submission and escape as well as by success. The termination of the noxious state associated with fighting, then, can be seen to reinforce withdrawal in the loser as much as it reinforces attack in the winner. An analysis of the pain associated with fighting leads to a similar conclusion. Following disengagement, this pain—which can be considered a salient element of the noxiousness of fighting—should diminish in both successful and unsuccessful fighters, and consequently, it should reinforce disengagement in both parties. Obviously, the associative linkage between fighting and pain should generally reinforce the avoidance of aggressive engagements, the only exception being the extremely skillful fighter who manages to defeat his or her opponent without ever suffering pain.

Such an interpretation is entirely consistent with Scott’s (cf. 1958) experimental findings. The animals in his study could not avoid aggressive engagements, and for the animals in which aggression was reinforced, aversion-reducing disengagements were made contingent upon attack. Generally speaking, animals tend to avoid potentially painful behavioral exchanges. Only when aggression ‘holds promise’ to terminate aversive conditions effectively will it become a dominant mode of behavior. This is exactly what Scott has demonstrated. Conditions were set up in which aggression proved repeatedly effective in quickly terminating a noxious situation. The removal of noxiousness, not the incapacitating infliction of injury, constituted the reinforcement in the aggression training. Once aggressive responses had become likely under aversive conditions, however, they could generalize to nonaversive situations. Scott (1958) expressed this view as follows: “Defensive fighting can be stimulated by the pain of an attack, but aggression, in the strict sense of an unprovoked attack, can only be produced by training”.

At this point, it should be clear that training is a selective application of reinforcement. If reinforcement contingencies are created in such a way that aggression consistently or predominantly terminates aversion, aggression will become an increasingly likely reaction. If,
on the other hand, fighting prompts withdrawal and this withdrawal consistently or predominantly terminates aversion, this nonaggressive reaction should become more likely. The thrust of the argument here is that the diminution of pain and the cessation of aversion have the potential to reinforce nonaggressive as well as aggressive behavior. In terms of theory, then, the issue of whether aggressive or nonaggressive behavior will be reinforced by the termination of an acute annoyance is decided mainly by situational factors associated with aggressive encounters – particularly those encounters that occur early in the organism’s development, when responses to aversions are being developed. An animal may develop into a vicious fighter, for example, because it is anatomically advantaged or has superior motor skills. As a consequence of its physical superiority, it may fight defensively with success. This success should lead to increased utilization of the aggressive response mode, which may ultimately become so prepotent that annoyance no longer is a necessary condition for the evocation of an attack. Theoretically speaking, this chain of events may be set into motion by an accidental strike in initial aggressive encounters. At the same time, it is conceivable that even a well-equipped animal – that is, a potentially successful fighter – could get off to a poor start, suffering the infliction of pain by an inferior opponent. To the extent that this pain induces submission or escape, the potentially superior fighter may be on its way to becoming a generally submissive, timid animal. The theoretical analysis of reinforcement by the alleviation of aversion thus yields a dual projection: (a) If aggression accomplishes alleviation, aggression is reinforced; and (b) if submission accomplishes alleviation, submission is reinforced. Under natural conditions, the physically advantaged animal seems to be destined to become aggressive, whereas the weak individual appears doomed for a submissive role. The contingencies of reinforcement can of course be arbitrarily altered by an intervening, physically superior agent. Parental guidance, as has been documented in many species, particularly in the primates, is one such source of intervention in the reinforcement process (Zillmann, 1979).

There seems little reason to doubt that the development of annoyance-motivated aggression in humans progresses along similar lines, at least in its initial phases. Patterson, Littman & Bricker (1967) have presented data on aggressiveness in children that seem highly consistent with the discussed theoretical suggestions. These investigators observed that initially timid children who were occasionally the target of attack by peers and whose defensive aggression often proved effective in terminating aversions increased their defensive fighting considerably. In addition, they started to attack peers without first being attacked. At the same time, timid children who succeeded in avoiding being attacked through withdrawal and those whose efforts in warding off an attack failed remained submissive. These findings are very suggestive of the reinforcement function of the alleviation of annoyance, but they do not decisively implicate this function because of conceptual ambiguities. Unlike in much animal research (cf. Hutchinson, 1972), aversive treatments in studies with humans are typically not operationalized in noxious stimulation of a measurable response intensity. Nor are aversions characteristically conceived of as experiential states with specific motivational properties. Instead, in the operant-learning tradition, aversions usually are defined in situational terms – as environmental (rather than internal) conditions that produce strong avoidance tendencies in the organism (Zillmann, 1979). More specifically, aversions have been viewed as situations that constitute a threat to the acquisition or maintenance of some form of extrinsic reward. The finding that children’s aggressiveness increases with the repeated successful defense of valued conditions – say, of toys or of a corner of a room where play proved rewarding – can thus be taken to support two different views equally well: (a) that the reduction of annoyance is reinforcing, and (b) that regaining a reward that was in jeopardy or temporarily lost constitutes the reinforcement. The case in which annoyance is operationalized as an impairment of efforts to obtain an extrinsic reward further illustrates the conceptual
ambiguity: Children who, for example, fight over a toy or a candy bar may be considered to fight to terminate annoyance or to gain access to the reward. The demonstration that successful fighting increases subsequent aggressiveness again can be taken to mean either that the reduction of annoyance or that the attainment of a reward is reinforcing. The described interpretational dilemma concerns, of course, the differentiation between negative and positive reinforcement (Zillmann, 1979).

When the view that aggression is primarily reinforced by extrinsic rewards is taken, offensive aggression can be readily explained. It will be recalled that if the reduction of aversion is the designated reinforcer of aggression, the initial attack upon an opponent cannot be directly accounted for. It can be explained as stimulus-response generalization based on successful defensive fighting or, alternatively, as due to the fact that in the competition for valued commodities and conditions, at least among animals, the possibly incidental mutual infliction of aversive treatments is largely unavoidable. Placing the emphasis on rewards very much reverses this assessment. Competition over valued commodities and conditions leads to threats and attacks to ward off rivals. If these behaviors prove effective, the fighting individual gains control over the rewards and consumes them. Consumption of the obtained commodities ultimately reinforces fighting, because it serves vital needs that are entirely extrinsic to aggression itself. In terms of drive-reduction theory, aggression is not considered to be motivated by a deprivation-based drive that is reduced by fighting, but it effects drive reduction in other domains in which deprivations have induced drive states. Aggression in the hungry animal, for example, will be reinforced by securing the food being fought for. Once offensive fighting has become a habit, it may be expected to generalize to defensive aggression. This process completes the discussed reversal in the assessment of what constitutes the primary reinforcement in aggression. The reversal is not a total one, however. Although the view that aggression is aversion based can be seen as all-encompassing, with aversions inevitable in the individual’s pursuit of vital objectives under naturally prevailing conditions, the alternative view that aggression is reward motivated cannot be applied successfully to situations in which rewards are not immediately apparent. As a consequence, the reward argument is usually supplemented by the notion that the termination of aversive stimulation also reinforces aggression. This supplementation is of course not contradictory at all (Zillmann, 1979).

The most significant aspect of the reward rationale is the assertion that aggression is reinforced by conditions not inherent in aggression itself. Aggressive behavior is not viewed as generating built-in satisfiers; nor is it seen as containing its own rewards. Instead, it is considered to be reinforced by any condition that satisfies a vital need. In animals, such needs concern mainly food, shelter, and mating. The satisfaction of such basic needs functions as unlearned primary reinforcement. However, in animals, particularly in the higher vertebrates, conditions that are contiguous with primary reinforcers may acquire reinforcement value and then serve as secondary reinforcers in the reinforcement of aggression. In human aggression, secondary reinforcement is considered the rule rather than the exception (e.g., Buss, 1961; Skinner, 1969).

In general, neither the developing child nor the mature adult in our society ever fights to satisfy the most basic needs. Aggression in children (and later in adults) centers around rewards that, biologically speaking, can only be considered nonessential. The fact that early aggression in children concerns things such as toys and ‘territories’ (cf. Patterson, Littman & Bricker, 1967; Patterson & Reid, 1970) suggests either that the control of objects or places is intrinsically reinforcing or more likely, that their control already has acquired reinforcement value through learning mechanisms that do not necessitate contiguity with primary reinforcers.
Incentive-motivated, successful fighting is selectively reinforced by the attainment of rewards (Zillmann, 1979).

Summary:

1. The modification of aggressive behavior through the contingent placement of reinforcement is not in doubt. The instrumental-learning paradigm applies to all behaviors, and aggression must be seen as just one of potentially many behavioral manifestations of interest.

2. Concerning human aggression, the alleviation of aversions and the attainment of rewards are largely appraised on intuitive grounds. As a consequence, it is often unclear whether reinforcement is negative or positive, and statements about the nature of reinforcement can be misleading.

3. The alleviation of aversion potentially reinforces both successful aggression and submission.

4. The attainment of rewards tends to selectively reinforce successful aggression.

5. Concerning the ontogenesis of human aggression, it is unclear how secondary reinforcement can be established on the basis of contiguity with primary reinforcers (Zillmann; 1979).

2. Is the Infliction of Injury Reinforcing?

As indicated earlier, Skinner (1969) is a proponent of the view that aggression is mainly reinforced by the infliction of injury. He suggested (1969) that the “stimuli which reinforce aggressive action are to be found in the behavior of the recipient as he weeps, cries out, cringes, flees, or gives other signs that he has been hurt”. Most importantly, however, he proposed that this reinforcement function of the described stimuli is innate as well as acquired.

Skinner has drawn a distinction between phylogenic and ontogenic aggression. He conceives of phylogenic aggression as aggressive behavior that is accompanied by autonomic responses. Autonomic reactions, in turn, are seen to enhance the survival value of aggression in the naturally selective ‘tooth-and-claw competition’ by providing the energy for vigorous activity. The infliction of injury in phylogenic aggression is considered a primary reinforcer. In an illustration, Skinner in fact suggests that hurting is as natural to the angry individual as eating is to the hungry one. Ontogenic aggression, in contrast, is conceived of as aggressive behavior that is individually acquired. It is considered autonomically flat or ‘cold’, comparable to such behaviors as food getting. Damage to others “may function as a conditioned reinforcer because signs of damage have preceded or coincided with reinforcers which do not otherwise have anything to do with aggression. However, autonomic reactivity is seen to enter ontogenic aggression rather freely, providing the basis for feelings associated with this type of aggression. The excitatory component of ontogenic aggression, then, is considered phylogenic. In ontogenic aggression, as Skinner (1969) put it, “an innate capacity to be reinforced by damage to others traceable to phylogenic contingencies may give rise to the autonomic pattern associated with phylogenic aggression”.
In Skinner’s view, the topography of fighting is more effectively shaped and maintained by immediate feedback of damage than by eventual success. Aggression is thus seen to be reinforced most directly by the infliction of injury. Later reinforcement, through the attainment of rewards not related to aggression as such or through the alleviation of an aversion, seems to serve mainly to strengthen the more immediate reinforcers — signs of damage, that is. Signs of damage are also considered to reinforce behavior that does not itself inflict damage. And though it is unclear how the presumed reinforcement value of witnessing the infliction of injury by others upon others can be systematically and constructively utilized in human affairs, Skinner feels that the popularity of aggressive sports such as boxing, wrestling, and football is best explained by the fact that patronage of the spectacle is reinforced by the signs of damage. Finally, Skinner proposed that hostility is entirely ontogenic. In his view, hostile actions that inflict harm upon an opponent through, for example, personal insult, cursing, or the bringing of bad news may be reinforced by contingencies arranged by a so-called verbal community. These contingencies, however, are seen as not having prevailed long enough, phylogenetically speaking, to warrant the assumption that the infliction of harm functions analogously to the infliction of injury. The autonomic component of phylogenic aggression is apparently considered lacking in hostility. Hostility, it seems, is by necessity ‘cool’. This view is also taken with regard to the use of recently developed weapons. The infliction of injury with such weapons is considered acquired and not inherited. In Skinner’s view, then, the elements of phylogenic aggression that enter ontogenic aggression clearly favor the tooth-and-claw variety of fighting. Apparently, along with other aggressive species, man is seen as deeply entrenched in this kind of archetypal aggression (Zillmann, 1979).

The assertion that the infliction of injury may serve as a primary reinforcer of aggression is rarely put forth in contemporary psychology, but the notion that signs of damage can acquire reinforcement value is more widely held. Concerning human aggression, Sears, Maccoby & Levin (1957) suggested that signs of pain and injury may become rewarding: (a) because of their repeated association with relief of the tensions deriving from the conflict between aggressive inclinations and fear of adverse consequences, or (b) because of their consistent association with the overcoming of frustrations (cf. Sears, 1958). In either case, signs of damage are seen as coinciding with the termination of an aversion, and consequently, the nature of the reinforcement acquired by these signs is viewed as negative. Bandura (1973a) has also suggested that if signs of damage should prove reinforcing this reinforcement is likely to derive from the relief of discomfort. “The alleviation of aversive treatment from an injured oppressor rather than his suffering may be the primary source of satisfaction”. The possibility that signs of damage become positive reinforcers of aggression through their repeated connection with extrinsic rewards is left open, however. Bandura has furthermore stressed a contingency that has been largely overlooked by those who consider the role of the cues of pain and injury to be critical: He proposed that when aggressors suffer reprisal or self-contempt for hurting others, signs of suffering should come to function as a deterrent to aggression rather than a reinforcer.

Feshbach (1970) has recently taken a very different approach to the presumed reinforcement value of signs of pain and injury. He posited that through observational learning and precept, the individual acquires norms of retaliation. Once adopted, these norms exert a certain degree of control over behaviors related to self-esteem. In Feshbach’s view, being successfully aggressed against tends to lower self-esteem, and retaliatory actions provide the means to regain the lost esteem — and possibly to enhance the self. The norms of retaliation demand the reciprocation of aversive stimulation: An eye for an eye! If an aggressor has inflicted injury, he or she must be injured in return. It is the feedback from successful retaliatory efforts that, according to Feshbach, restores self-esteem and hence is gratifying and reinforcing.
In contrast to suggestions that signs of damage reinforce aggressive behavior (positively or negatively, as the case may be), it has also been proposed that such signs generally inhibit aggression. The argument has its roots in ethology and in common observation. In ethology, Lorenz (e.g., 1963) has taken the view that in intraspecific aggression, signs of damage frequently function as unlearned signals that prevent further assault. At times, the inhibitory effect of signs of damage is viewed as partly acquired through learning, however, Morris (1968) regards the expression of pain and the display of injury as specific manifestations of a more general category of signs: submission gestures. Submissive behavior functions, of course, to prevent or terminate rather than to further instigate aggression.

Common observation leads to similar expectations. Since signs of damage usually occur near the end and immediately after a fight, the interpretation that these signs were causally involved in the termination of aggression is understandable. Cultural norms concerning aggression tend to make this ‘intuitive appraisal’ even more compelling: Strictly enforced social norms prohibit further aggression against opponents who apparently have been defeated. In other words, the inhibition of aggression is trained as a response to submission, especially when the submission is associated with pain and injury; and this training may prompt the belief that signs of damage are, in fact, inhibitory. The individual may ‘detect’ feelings of pity – feelings that, in self-assessment, prevent him or her from further attacking the victim (Zillmann, 1979).

Finally, the inhibition of aggression can also be predicted from an empathy point of view. Investigators of empathy, from McDougall (1908) to Stotland (1969), have suggested that witnessing distress in another person induces a comparable affective reaction in the observer. If so, the aggressor continuing an attack upon a person in pain would place him- or herself in a greater state of discomfort (e.g., Baron, 1971b, 1971d). The aggressor can avoid this noxious experience by stopping the fight.

Interestingly, all these suggestions of an aggression-inhibiting effect of signs of damage are not, as it might appear, contradictory to the proposal that such signs reinforce aggression. Reinforcement affects the recurrence of aggression, and the possibility that signs of damage cause the inhibition of aggression does not exclude the possibility that the likelihood of subsequent aggression will increase.

In short, there is no contradiction in the view that signs of damage can serve a dual function: They effect the immediate inhibition of aggression and promote later aggression (Zillmann, 1979).

Lorenz (1963) based his suggestion that signs of damage may inhibit aggression on some informal observations of lower vertebrates. The phylogenetic proposals of the discussed function of the cues are thus entirely without an acceptable empirical foundation in animal research. Phylogenetic speculation aside, we now turn to investigations of human aggression to determine which view is favored by the available evidence.

Patterson and his associates (Patterson, Littman & Bricker, 1967; Patterson & Reid, 1970) have investigated aggressive exchanges in children through participant observation. Observers, who were placed in groups of interactants, recorded the occurrence of various behaviors of interest as unobtrusively as possible. Their records were used to determine the frequency of specific activities that precipitated and followed aggression. Under these conditions, it was observed that the infliction of pain by a ‘skilled’ aggressor characteristically prompted the victim: (a) to yield his or her territory, (b) to give up his or her toy, or (c) to cry. “When any of these positive consequences occurred the attack terminated” (Patterson & Cobb, 1973). Patterson et al. (1967) explicitly treat the witnessed expression of pain, that is, crying, along with the attainment of extrinsic rewards as a positive reinforcer of aggression.
Such an interpretation is highly questionable, however, for several reasons. Most importantly, the observational data presented fail to document that crying is, as suggested, a reinforcer of aggression. The research method employed simply does not permit a conclusive evaluation of the effect that crying, in and of itself, may have had on the successful fighter’s subsequent aggression. Furthermore, since there is no stipulation that witnessed crying be considered a secondary reinforcer nor any indication of a process through which it may acquire reinforcement value, crying is apparently treated as a primary reinforcer. This assessment seems quite arbitrary. The finding that the victim’s crying tended to coincide with the termination of fighting, particularly in view of the uncertain reinforcement value of such crying, can alternatively be seen to confirm the proposal that the expression of pain inhibits continued attack and possibly acquires reinforcement value for the successful attacker through its connection with the attainment of rewards. Independent of alternative considerations, the findings reported by Patterson et al. (1967) clearly do not demand that the victim’s crying be viewed as a reinforcing positive consequence of an aggressive assault. All the data show is that crying, at least for the victim of aggression, is a characteristic subsequent condition of fighting. Reinforcement value aside, the data even leave unanswered the question of whether crying is a critical cue in the cessation of attack. It is conceivable that in humans, as in many other animal species, further attack is averted mainly because the opponent stops resisting and yields embattled objects or conditions. It is doubtful that crying, if not associated with yielding, would terminate an aggressive struggle over sought-after rewards or, for that matter, that it would promote later aggression by the attacker. Unfortunately, unequivocal data on this point are not available, and thus the ‘biological’ signal function of crying in children, be it the inhibition or the reinforcement of aggression or both, remains to be demonstrated (Zillmann, 1979).

Concerning the more general proposal that signs of damage function as reinforcers of aggression, whether the sign function is presumed inherent or acquired, some experimental data have been collected on human adults, and the findings do permit an evaluation of this proposal. In a first investigation pertinent to this issue, Buss (1966a) explored the consequences of inflicting bodily damage upon a victim on subsequent aggression against another victim. The findings show that when no harm was inflicted upon the first victim, the magnitude of punitive measures directed against the second victim differed only negligibly from that directed toward the first victim. If anything, there was a tendency for aggressiveness, as measured in the intensity of shock delivered, to increase slightly from the first to the second victim. In sharp contrast, when the first victim had apparently suffered some bodily damage, the magnitude of punitive measures directed against the second victim decreased substantially. This effect was not uniform across sex conditions, however. The infliction of damage proved to reduce aggressiveness more in female than in male subjects. It also proved to reduce aggressiveness more for female than for male victims. These effects were additive. The largest reduction of aggressiveness was thus observed in the condition in which both the subject and the victim were female. Both mixed-sex arrangements yielded intermediate levels of reduction. Finally, in the condition in which both the subject and the victim were male, the reduction proved negligible and nonsignificant. Buss suggested that the lack of an effect in the latter condition derives from differences in the acculturation of the sexes with regard to aggression. Evidently, men are expected to be able to take considerable pain and perhaps even harm and the aggressor’s awareness that he has hurt or harmed a male victim apparently has no effect on subsequent aggression. Granted that in male-male aggression, the infliction of injury may be of little moment, Buss’ findings provide strong evidence that signs of damage do not reinforce aggression. In fact, with the exception of intermale aggressiveness, signs of damage clearly inhibit subsequent aggression.
In another investigation, Buss (1966b) examined the consequences of the victim’s expression of pain on subsequent aggression against the same victim. The victim’s expression of pain was found to reduce aggression against him or her substantially. Unlike in the case of bodily damage, the expression of pain had a highly uniform effect. Neither the sex of the subject nor the sex of the victim modified the impact, and degree of frustration exerted only a minor influence. This assessment is corroborated by the analysis of shock blocks. Of particular interest is the finding that the expression of pain successively lowered aggressiveness. That is, during the learning session, the gradient associated with aggressiveness following the expression of pain fell more and more below that associated with aggressiveness in the control condition. Under conditions that must be considered ideal for the demonstration of the reinforcing effect of pain, the evidence is counter to the reinforcement notion. Buss’ findings, taken together, not only deny the reinforcement claim but show pain to be a potent inhibitor of subsequent aggression (Zillmann, 1979).

Geen (1970) reported data that confirm Buss’ findings. Geen observed that the victim’s expression of pain significantly reduced aggressiveness as measured in the intensity of shock delivered. Whether subjects had been aggressively instigated or were treated in a neutral manner, signs of pain lowered aggression to equal degrees.

The aggression-inhibiting effect of pain cues was further documented in a series of studies conducted by Baron (1971b, 1971d). Baron observed that aggressiveness, as measured in the intensity and duration of shock delivered, was inversely proportional to the magnitude of pain ostensibly experienced by the victim. Aggressiveness decreased as the intensity of pain increased, and it did so equally for provoked and unprovoked subjects. The findings are thus in total agreement with those reported by Geen (1970).

A study by Rule & Leger (1976) gives further evidence that pain cues inhibit rather than reinforce aggressive behavior. These investigators employed the pain-meter procedure devised by Baron (e.g., 1971d), providing both provoked and unprovoked male subjects with feedback of the victim’s minor or severe pain reaction. The indication that the victim suffered pain acutely was found to reduce aggressive behavior in provoked and unprovoked subjects alike. This uniform inhibitory effect was assessed in both the intensity and duration of electric shock delivered to the victim.

In yet another related study with males, Baron (1974a) stepped up the subject’s aggressive instigation in order to learn if at least at higher levels of anger, the provision of information about the victim’s suffering would reinforce aggression. Witnessing the aggressor, whether he did not receive feedback from the victim or ignored the feedback of pain, increased aggressiveness. However, this effect was independent of the effect of receiving feedback of pain from the subject’s own victim. More important here, regardless of whether or not an aggressive model had been witnessed, feedback of the victim’s suffering failed to exert an overall effect. Its effect was found to vary as a function of the level of instigation to aggression. Aggressiveness, measured by both the intensity and duration of shock delivered, tended to be reduced by information about the victim’s pain only in nonangry subjects (according to a significant differentiation of these conditions on shock duration). In angry subjects, such information failed to exert any reliable effect.

As far as unprovoked persons are concerned, these findings further corroborate the earlier ones: Signs of damage and pain inhibit rather than reinforce subsequent aggression. With regard to aggressively instigated persons, however, the findings show that acutely angry people – in this study, males – may well continue to punish their tormentor even though he displays signs of discomfort and pain. Granted that under these circumstances, signs of damage do not inhibit aggression, it should be clear that the data on hand in no way support the contention that such signs reinforce aggression (Zillmann. 1979).
An investigation on human subjects by Feshbach, Stiles & Bitter (1967) seems to have generated some tentative support for the contention that in the aggressively instigated individual, information about a tormentor’s suffering can reinforce other behaviors, although not necessarily aggression.

In an investigation with children (Zillmann & Cantor, 1977), it was observed that witnessing a nasty person suffer is enjoyable, whereas witnessing a nice person suffer is not only not enjoyable but annoying. Interestingly, the suffering of a neutral, but not particularly nice, person proved disturbing rather than enjoyable. Together with the findings reported by Feshbach et al., these and other observations (e.g., Bramel, Taub & Blum, 1968) suggest that the annoyed person may well enjoy seeing his or her annoyer suffer. This enjoyment should constitute reward value, which in turn should function as a reinforcer. However, when the reinforcement of aggression through exposure to pain cues is being considered, conceptual problems arise. Information about an annoyer’s suffering seems to be particularly appreciated, and hence reinforcing, when the angry person him- or herself fails to act aggressively upon the annoyer. Retaliatory aggressive action, if taken, may also provide feedback of suffering, but as discussed earlier, the possible reinforcement value of this feedback is almost necessarily confounded with a variety of potentially more powerful positive and negative reinforcers. The case of the infliction of damage upon the tormentor by others, particularly the case of his or her accidental victimization, is of interest because it provides conditions under which the presumed reinforcement effect of pain cues can manifest itself without the indicated confoundings. In terms of theory, these cases have revealing implications: If, for the provoked individual, signs of his or her annoyer’s suffering should prove to have reinforcement value, the infliction of suffering through events not controlled by the angry person would reinforce his or her nonaggressive behavior. To the extent, then, that annoyers get the treatment they deserve through the action of others or by accident, signs of damage should reinforce the provoked person’s patience, self-control, and belief that things will turn out all right without his or her resorting to violent means. The point to be made here is that whereas the presumed reinforcement value of signs of damage could promote aggression in certain situations, in others, it could increase the likelihood of nonaggressive activities (Zillmann, 1979).

**Summary:**

1. Signs of damage failed to reinforce aggression. With the possible exception of intermale aggression, signs of damage proved to exert a strong inhibitory effect on later aggression.

2. The victim’s experience and expression of pain failed to reinforce aggression. In unprovoked and in slightly provoked individuals, information about the victim’s suffering inhibited subsequent aggression. In more severely provoked individuals, the victim’s suffering did not inhibit subsequent aggression, but neither did it reinforce it.

3. Witnessing an annoyer suffer seems pleasing, whereas witnessing a neutral person suffer seems disturbing. The former condition may function as a reinforcer, the latter as a deterrent. The control of aggression by such reinforcers or deterrents has not been demonstrated, however.

4. There is no evidence whatever that could be construed as support for the notion that signs of damage and expressions of pain are inherently reinforcing (Zillmann, 1979).

**3. Incentive Theory.**
We will refer to the notion that aggression is primarily committed in order to control positive reinforcers as ‘incentive theory’. Buss (1961, 1971), who is the main proponent of this view, has suggested that in our society and in most others, aggression is so ubiquitous a phenomenon because it generally yields a significant payoff. In short, aggression pays. It produces benefits for the aggressor, and the experience of being benefited reinforces aggression. Or alternatively, the experience of having been benefited by aggression creates the anticipation of additional benefits, thereby motivating further aggression. Buss acknowledges the realm of ‘angry’, emotional aggression, that is, of annoyance-motivated aggressive behavior directed at terminating the annoyance (or at negative reinforcers, if a Skinnerian terminology is preferred). He feels, however, that ‘instrumental’ aggression, committed ‘in cold blood’ to obtain incentives, is the more important phenomenon. In what appears to be a reaction against the pervasiveness of the frustration-aggression hypothesis in aggression theory, Buss (1971) suggested that “angry aggression has probably been over-emphasized in theoretical accounts of aggression”, and that “most aggression appears to be instrumental”. It is his contention that instrumental aggression is predominant: (a) because of an over-present competition for rewards; and (b) because in this competition, an aggressive maneuver “tends to guarantee acquiring the reinforcer”, whereas possible nonaggressive actions hold only a low probability for success. Observational data on children largely confirm the conclusion that aggression indeed pays more often than not (e.g., Patterson & Cobb, 1971; Patterson, Littman & Bricker, 1967), but the data on violent actions among children, among adults, and between adults and children generally do not support the claim that incentive-motivated aggression is more characteristic than annoyance-motivated aggression (Zillmann, 1979).

Regardless of whether incentive-motivated or annoyance-motivated aggression predominates, the view that aggression is often controlled by incentives is widely held in aggression theory (cf. Bandura & Walters, 1963b; Patterson & Cobb, 1973). In fact, irrespective of theoretical considerations, the notion is so broadly accepted that it may appear to be common sense. Obviously, killers kill, robbers rob, and muggers mug for money, and children fight over candy and toys.

It would be an oversimplification of incentive theory, however, to say that only such apparent, tangible rewards are being viewed as incentives. Incentives are equated, in theory at least, with all types of positive reinforcers. Any condition that proves to exert the influence of a positive reinforcer is thus to be considered an incentive. Nevertheless, in practice, the incentive status of particular conditions is determined mainly on intuitive grounds rather than on the basis of the documentation of reinforcement value. If an object or condition appears desirable and a high degree of consensus among people can be assumed, it is declared an incentive. The magnitude of an incentive is similarly assessed: Incentive value increases with the degree to which objects or circumstances are deemed desirable (Zillmann, 1979).

Buss (1971) has proposed three major classes of incentives: gain of money, prestige and status. Bandura (1973a) distinguished tangible rewards and social or status rewards. Incentives are thus not restricted to corporeal entities but involve such intangibles as increased self-confidence and self-enhancement through the approval of others. The inclusion of intangibles has broadened the scope of incentive theory far beyond skirmishes over food, mate, and shelter. It has made it possible to apply the theory to uniquely human situations: to conflicts over commodities with no survival value whatsoever, to social benefits of similar distinction, and to desirable traits with little ‘cash value’.

At the same time, however, this extension has created many ambiguities both at the conceptual and the operational levels. Conceptually, it seems again to be a mere act of faith in the theory of operant learning to believe that all nontangible rewards can be considered
secondary reinforcers readily traceable to linkages with primary reinforcement. More importantly, at the operational level it is frequently difficult to reach agreement on whether or not something is an incentive for a particular person and if it is, on how much incentive value it holds. The ambiguity concerning the magnitude of incentive also applies to the seemingly best defined tangibles: monetary incentives. The reward value of money apparently varies inversely with a person’s wealth: A given amount is a greater incentive for the poor than for the rich. The ambiguity here appears trivial, however, when compared to such intangibles as prestige and ‘making a good impression on the opposite sex’. Returning to conceptual matters, the issue of positive vs. negative reinforcement discussed earlier also seems to plague intangible incentives. It is difficult to decide, at least at times, whether aggressive actions are being reinforced by the attainment of what appears to be incentives or whether the seemingly positive reinforcers are simply prominent signals that terminate an aversion, thus reversing the nature of reinforcement to negative. For example, is a gain in prestige rewarding because it makes life more enjoyable or because it ends the humiliations associated with inferior status? Such questions tend to be decided in favor of whatever is more noticeable – the aversive experience or the euphoria following self-enhancement.

In spite of these conceptual and operational difficulties concerning incentives, incentive theory has proven valuable. Historically, it has helped to correct the preoccupation with ‘aggression because of aggravation’ and has drawn attention to ‘aggression for self-enhancement’. Common observation certainly confirms that aggression in pursuit of furthering the individual’s ‘quality of life’ is wide-spread. In accounts of aggression, incentive-motivated aggression must therefore be recognized as a unique domain of aggressive behavior. It should be kept in mind, however, that the overly liberal interpretation of incentives – that is, the detection of reward value for almost every aggressive act – would be as futile as the overly liberal use of the frustration concept. After all, the overcoming of frustration via aggression can almost always be interpreted as self-enhancing, and aggressive self-enhancement through incentives can almost always be interpreted as overcoming frustration.

Incentive theory is unequivocally supported by a bulk of empirical data. Evidence that would challenge the notion is conspicuously absent (Zillmann, 1979). Observational data on juvenile gangs seem to suggest that prestige and superior social status, as incentives, motivate much aggression (e.g., Miller, 1958; Short & Strodthack, 1964), with intergang rivalry following similar lines (e.g., Wolfgang & Ferracuti, 1967; Yablonsky, 1962). At the same time, such data show that status-determining skirmishes, which make up far more than half of all ‘aggressive’ encounters in gangs, are for the most part verbal battles (e.g., Miller, Geertz & Cutter, 1961). The incentive of status thus seems mainly to promote hostility – even in outspokenly violent gangs.

Social approval and encouragement, frequently referred to as ‘social reinforcement’, have also been shown to promote aggression (Zillmann, 1979; and references therein).

**Summary:**

1. Aggression is strongly reinforced by the attainment of tangible rewards.

2. Aggression is reinforced by the attainment of various nontangible incentives. The nature of this reinforcement cannot always be determined, however. It appears that conceptually at least, positive reinforcement is characteristically confounded with elements of negative reinforcement.
3. Marked sex differences seem to exist with regard to the reinforcement value of both tangible and nontangible rewards.

4. The social approval and encouragement of aggression promotes aggressiveness. It is not necessarily reinforcing, however, and the fact is open to alternative explanations. The treatment of social approval and encouragement as factors that reduce aggression constraints adequately explains the pertinent findings. So does the treatment of these factors in terms of evaluation apprehension (Zillmann, 1979).

4. Punishment as a Deterrent.

Punishment, in one form or another, has been used in all known human societies to shape and correct the behavior of adults, children, and domesticated animals. Throughout the ages, punishment and the threat of punishment seem to have functioned as the principal deterrents to transgressions – especially those of a hostile or aggressive nature. In light of the apparent effectiveness of such measures, one might expect their behavior-modifying power to be well established in theory and research. This is not the case, however. On the contrary, the effectiveness of punishment and the threat of punishment have been severely challenged. In psychological theory, punishment has been a highly controversial issue, and this controversy seems to have been considerably clouded by humanitarian considerations. What is equally important, however, is that pertinent data have been scarce, and misleading generalizations have resulted. In the consideration of human behavior, the punishment issue is further complicated by conceptual ambiguities. The punishment concept is used in common discourse to refer to measures taken to bring justice to a situation. A transgressor is punished for a violation of precepts. Only transgressions are punished. The punishing, aversive stimulation inflicted on the transgressor would be considered a simple hostile or aggressive assault if it were not precipitated by a transgression. Punishment thus seems to be inseparably connected with moral judgment.

At other times, however, punishment is conceived of as aversive stimulation independent of moral considerations. This is the predominant usage of the concept in psychology. Punishment is the counterpart of reward. In operational terms, ‘punishment’ is the arrangement of a response consequence that reduces the likelihood of this response. The stimulus that is arranged as a consequence is referred to as a ‘punisher’. Punishment is thus the exact opposite of reinforcement. This parallel extends to the distinction between positive and negative punishment. ‘Positive punishment’ denotes the delivery of noxious stimuli, whereas ‘negative punishment’ denotes the partial or total removal of a reinforcer. The symmetry in the reinforcement-punishment terminology would seem to project a symmetry of function. It is at this point, however, that theoretical views diverge (Zillmann, 1979).

Historically speaking, it was Thorndike (1911, 1913) who in the so-called ‘law of effect’ proposed a symmetrical model of reinforcement and punishment. Whereas reward increases the likelihood of a response, punishment decreases it. This is the Thorndikean maxim that “pleasure stamps in, pain stamps out”. Reinforcement and aversive control of behavior are thus viewed as producing directionally opposite effects, but otherwise they are treated as functionally equivalent. The apparent symmetry of the function of punishment and reinforcement was not claimed for very long, however. Thorndike (1932) himself amended the law of effect so as to de-emphasize the significance of punishment in the control of behavior. The notion of asymmetry between reinforcement and punishment, at which Thorndike had arrived, found an impassioned proponent in Skinner. Skinner (1953, 1971) flatly denied that punishment is an effective means of controlling behavior, and he has probably been the most influential advocate of this view. Specifically, Skinner asserted: (a)
that punishment is relatively ineffective compared to reinforcement, (b) that its effect is highly transient, and (c) that it has potentially maladaptive side effects.

Skinner’s contention that punishment is an ineffective means of behavior control has more recently been faulted (see Zillmann, 1979; and references therein).

Generally speaking, punishment and moral judgment, as reflected in the common usage of the punishment concept, seem inseparably linked in human behavior. The deliberate application of aversive stimulation for the purpose of behavior control is perceived as differentially appropriate or inappropriate, justified or unjustified, as soon as the individual has developed the competence to make such judgments (cf. Kohlberg, 1964; Piaget, 1932). Conceivably, the effect of aversive stimulation or ‘punishment’ on the individual depends on whether he or she can accept this treatment as deserved or has to reject it as undeserved. On this point, a large number of investigations (e.g., Burnstein & Worchel, 1962; Cohen, 1955; Kregarman & Worchel, 1961; Mallick & McCandless, 1966; Pastore, 1952; Zillmann et al., 1975; Zillmann & Cantor, 1976b) have shown with great consistency that an aversive treatment, whether aggressive or hostile in character, that is perceived as arbitrary and unjustified tends to instigate hostility and aggression to a far higher degree than the same treatment when it is perceived as unintended or justified to some extent.

Although the proposal that the effect of punishment is mediated by the subjective assessment of its legitimacy has not undergone decisive testing, it can aid in reconciling much conflicting evidence concerning the effectiveness or ineffectiveness of punishment (e.g., Bandura & Walters, 1959; Becker et al., 1962; Eron et al. 1961; Sears, Maccoby & Levin, 1957; Sears, Rau & Alpert, 1965).

Although there are some data that fail to confirm the aggression-suppressing effect of potential reprisals (Knott & Drost, 1972), the available evidence (Deur & Parke, 1970; Shortell, Epstein & Taylor, 1970; Baron, 1971c, 1973, 1974c; Gaebelein & Hay, 1974; Zimbardo, 1969; Donnerstein et al., 1972; among many others) generally supports the view that likely retaliation prevents or reduces aggressiveness as long as the aggression is not connected with incentives or is associated with trivial incentives only. This effect diminishes as retaliation becomes more instrumental either in the termination of an annoyance (i.e., in rectifying mistreatment) or in the attainment of valued commodities or circumstances. The available evidence can also be seen as consistent with a cost-benefit interpretation of aggression: Conceiving of the potential punitive reactions as a cost, the benefits produced by aggression must outweigh the cost to warrant aggressive action (Zillmann, 1979).

The aversive control of aggression has been further examined in a revealing experiment conducted by Pisano & Taylor (1971). Highly punitive counteraggression proved to escalate rather than reduce aggressiveness. The opponent’s apparent reluctance to pay back the aggressor, that is, the pacifistic type of reaction, only initially tended to reduce aggression but failed, overall, to control aggressiveness. Retaliation in line with the ‘an eye for an eye’ formula, by contrast, suppressed aggression significantly. These effects, once established, held up throughout the interaction between the adversaries.

Summary:

1. Aversive stimulation that cannot be perceived as manipulated by persons or institutions to control the respondent’s behavior suppresses the behavior that precedes and that apparently precipitates such stimulation. Aversive control in humans functions analogously to aversive control in subhuman species. Its effects on behavior can be strong and persistent, similar to the effects of reinforcement. The research evidence does not support the view that the aversive control of human behavior is ineffective and necessarily maladaptive.
2. Hostile and aggressive behavior are under aversive control. As long as the aversive control cannot be perceived as manipulative or does not involve stimuli sufficiently intense to prompt defensive aggressive reactions, aversive contingencies tend to suppress hostility and aggression.

3. Aversive control becomes ineffective as contingent aversions are matched or dominated by simultaneously operating reinforcement contingencies. Conceiving of aversion as a cost and reinforcement as a benefit, effective aversive control requires a cost dominance in a cost-benefits analogue.

4. Aversive stimulation perceived as manipulated by persons or institutions to control the respondent’s behavior does not necessarily produce effects similar to those resulting from aversive stimulation not perceived in this way. The perceived legitimacy of the application of aversive stimulation appears to be a crucial variable in the effect of aversive treatments.

5. If aversive stimulation is perceived as legitimate or is recognized as ultimately beneficial by the respondent, manipulative aversive control may function analogously to nonmanipulative aversive control.

6. If aversive stimulation is perceived as unjustified and arbitrary by the respondent, it is likely to promote rather than suppress hostility and aggression.

7. Little is known about the effect of the punishment of transgressions. The perceived legitimacy of such punishment again seems to be of great importance. Physical punishment, because its legitimacy is generally questioned, is not likely to be an effective punitive measure; if such punishment is regarded as a violation of legitimacy, it should prompt hostile and aggressive reactions. Strategies employing mild positive punishment and negative punishment of transgressions together with the reinforcement of constructive responses appear to be the most effective in the curtailment of hostility and aggression.

8. Threat of punishment may suppress hostile and aggressive behavior if the respondent perceives it as likely that the threatened contingency can and will be enforced by the threatener (Zillmann, 1979).

**Stimulus Control of Aggression**

The demonstration of the stimulus control of aggression in animals, together with anecdotal evidence in human behavior (such as Toch’s (1969) report of a chronic aggressor who, having received a traumatic beating by a huge opponent as a youngster, was prone to attack large-sized people at minimal provocation), has been taken to suggest that hostility and aggression in humans are probably similarly controlled (Bandura, 1973a). Additionally, it has been suggested that the stimulus control of human aggression may largely operate through semiotic mediation: The individual is conditioned to display negative reactions to words and possibly to nonverbal cues, and as these words or cues are applied to a human target, the target assumes negative valence and ultimately draws hostile and aggressive reactions. This view, which has been expressed by Bandura (1973a) and Berkowitz (1973b), is based on research in semantic conditioning (Zillmann, 1979).

In Bandura’s approach to aggression, stimulus control, especially through classical conditioning, is assigned a relatively minor role, however. In contrast, Berkowitz, who has always entertained what could be considered a stimulus-control theory of aggression (e.g.,
1962, 1965a), has recently committed himself more explicitly than earlier to the paradigm of classical conditioning of aggressive responses and to stimulus control generally (e.g., 1970, 1973b, 1974). In Berkowitz’s recent thinking, the conditioning of the power to elicit hostile and aggressive reactions to potentially any initially neutral stimulus is the nucleus of the theory; secondary, modifying factors, such as the degree of aggressive instigation or anger arousal, are organized around it. Particularly in connection with the discussion of ‘impulsive aggression’ (i.e., unpremeditated annoyance-motivated aggression), Berkowitz (1970, 1973a) has suggested that operant learning has been greatly overemphasized and that a classical-conditioning model would be the superior explanatory mechanism. In this view (1970), the aggressor “reacts impulsively to particular stimuli in his environment, not because his inhibitions have been weakened or because he anticipates the pleasures arising from his actions, but because situational stimuli have evoked the response he is predisposed or set to make in that setting”. The automaticity of such aggression is emphasized: The individual is said (1967) to react “to these stimuli without considering what he wants or does not want to do, and with no regard for the possible adaptive significance of his behavior”. In this view, then, through the manipulated or incidental pairing of initially neutral environmental stimuli with aggression-evoking cues, the stimuli assume the power to trigger aggressive reactions in a highly automatic fashion. The stimuli act as a goad. They force aggression out of the organism. The organism cannot help itself, so to speak. In this view, cognitive processes that could intervene and guide behavior are clearly denied a critical function. Although their existence is occasionally acknowledged, they apparently are viewed as lacking the capacity to inhibit an aggressive course of action. Man’s aggressive behavior is seen as being controlled primarily by environmental stimuli just as it is in subhuman species. There is a difference with regard to the use of sign systems, however. Unlike other species, man apparently can readily manipulate the ‘aggressive meaning’ of events. Through linguistic operations and the arbitrary use of symbols, he can link events to aggression, and this capability so it seems, makes him all the more vulnerable to being seduced into violent actions (Zillmann, 1979).

Since the classical conditioning of human aggression has not yet been rigorously demonstrated, it can only be an act of faith in the theory that has led Berkowitz (e.g., 1970, 1973b, 1974) to project a world in which people are helplessly drawn into violence by all the stimuli that in the past preceded or were otherwise linked to aggressive outbursts.

Conditioning and stimulus control are so liberally interpreted that the mere mention of a word with aggressive connotations is viewed as having the power to trigger violent reactions, especially in those who have suffered frustrations. The individual is apparently at the mercy of an environment laden with cues that may liberate aggressive associations and ultimately violence. Berkowitz’s reasoning on aggressive cues is preoccupied with showing that stimulus control is established and strengthened. The deterioration of such control is entirely ignored. As a consequence, all roads, in his projections, lead to violence. If, for example, a youngster has fought others in front of red brick walls, red brick walls should come to trigger attacks on anyone he encounters. The sight of weapons should instigate aggression. So should the sight of a black eye or a band-aid. A word such as ‘rape’ and exposure to aggressive sports events (e.g., a football game) and fictional violence (e.g., a detective story) should also elicit aggression. As long as a stimulus can somehow be related to aggression, the individual who encounters it, especially the annoyed one, is apparently viewed as on his or her way to commit an aggressive act.

Such a projection of stimulus control appears grossly distorted. If aggression is viewed as controlled by conditioned and discriminative stimuli, nonaggressive reactions must be considered to be similarly controlled. Specifically, if attack can be conditioned, so can avoidance, withdrawal, and escape. If, for example, fighting in front of red brick walls proved painful and induced flight in the past, red brick walls should trigger flight. Furthermore, if we
follow the suggestion of findings on animal behavior, stimulus control is of course subject to extinction. If red brick walls indeed assume the power to induce fight or flight, this power will not prevail forever; it should diminish steadily, especially when novel experiences with red brick walls (i.e., activities without potential opponents and aggression-provoking threats) intervene. Thus, in entertaining a stimulus-control theory of aggression, there are at least two qualifying factors that have to be acknowledged: (a) Stimulus control applies to nonaggressive behavior as well as to aggressive behavior; and (b) stimulus control is subject to extinction. The application of these obvious considerations alone should prevent much overgeneralization (Zillmann, 1979).

In entertaining a stimulus-control theory of aggression, it is also necessary to give some attention to naturally prevailing conditions. If it is reasonable to assume that children and adults, mainly under the influence of punishment contingencies, resist far more often than not the temptation to aggress against an annoyer, preceding stimuli should assume the power to elicit nonaggressive reaction to annoyance. This idea relates to Scott’s (1958) notion of the passive inhibition of aggression: A habit of nonfighting is formed simply by not fighting; if no aggressive response is displayed, it cannot become subject to stimulus control (nor can it be reinforced). Only the behaviors of individuals who respond aggressively to provocation with some consistency can come, for some time at least, under stimulus control. Similarly, the use of signs with aggressive referents or connotations, words in particular, cannot be viewed as consistently linked with fighting. When aggression-laden words are used in direct encounters, they may be associated as much with fear and escape as with danger and aggression. The same applies when the covert use of such words is considered. When aggression-laden signs are viewed as conditioned stimuli for aggression, the occurrence of every sign that is not followed by aggressive activities furthers extinction. In this connection, a stimulus-control model of aggression apparently leads to a view of the effect of exposure to ‘symbolic’ aggression that is virtually opposite to the one that has been attributed to such a model. Media violence, for example, should be seen as ‘extinction training’. The viewer, whether taking the fare he or she is exposed to calmly or being aroused about it, de facto practices nonaggressive responses to threats, assaults, and other aggression-related events. If these stimuli ever ‘pulled’ aggression, their power to do so should have rapidly deteriorated. This, of course, is counter to Berkowitz’s (e.g., 1965a, 1970, 1973b, 1974) proposal of the aggression-enhancing effect of exposure to aggressive events (Zillmann, 1979).

Summary:

1. Conspecific fighting in animals has been shown to be under the control of discriminative and conditioned stimuli.

2. There is no evidence as yet that shows with decisiveness that human aggressive behavior is under stimulus control.

3. Proposals in which aggression is viewed as primarily under the control of discriminative and conditioned stimuli are not substantiated by research findings.

4. The degree to which stimulus control may exert an influence on human aggression remains to be determined (Zillmann, 1979).

Bandura’s Social Learning Theory of Aggression
The most comprehensive theory of human aggression to date (although considered more a systematic position or even ‘a way of thinking about aggression’ than a theory by some (e.g., Pepitone, 1974) has been proposed by Bandura (1973a, 1973b et seq.; cf. Rotter, 1954; Mowrer, 1950; Bandura & Walters, 1963). In his ‘social-learning theory of aggression’, Bandura first endorsed the learning of aggression through direct experiences, in accord with the basic paradigm of learning. Aggression is viewed as largely controlled by reinforcement and punishment contingencies. It is also seen to be under stimulus control. However, as a point of departure from other approaches, Bandura added further mechanisms to account for aspects of aggressive behavior that seem uniquely human and that are not adequately explained by the basic learning paradigms. Apparently, much behavior including aggression, is learned through observation alone – that is, without direct experience. Bandura (1965, 1969, 1971a, 1971c) has proposed various theoretical rationales to account for such ‘no-trial learning’. Also, more than any other investigator outside the Freudian tradition, Bandura has acknowledged the unique human capacity for information processing, and he has elaborated its implications for the instigation, maintenance, modification, and control of aggression. We now briefly discuss Bandura’s proposals concerning observational learning and cognitive control in aggression.

The premise in observational learning is that “observed outcomes influence behavior in much the same way as do directly experienced consequences” (Bandura, 1973b). The individual is seen not to be entirely dependent on making his or her own mistakes in a trial-and-error fashion. After observing others fail, the individual can correct his or her behavior so as to avoid failure. Similarly, after merely witnessing the success of others, he or she should be inclined to achieve similar success through the observed, apparently effective behavioral means. Observing a model perform a particular activity and then receive a reward should thus, as with direct reinforcement, increase the observer’s response rate for that behavior; observing a model perform this activity and then be subjected to an aversive treatment should, as with direct punishment, decrease the response rate for that behavior. Talking about the effects of ‘vicarious reinforcement’ and ‘vicarious punishment’ on the rate of a response is somewhat misleading, however. If the response in question is already established in the observer’s repertoire, the rate of its emission is indeed what should be affected. If, however, the response in question is not yet established, it is the likelihood of the occurrence of the response that should increase with witnessed contingent reinforcement and decrease with witnessed contingent punishment. In general terms, then, and with regard to aggressive behavior, “seeing aggression rewarded in others increases, and seeing it punished decreases, the tendency to behave in similar aggressive ways” (Bandura, 1973b).

Bandura (1971a, 1971c, 1971d) has developed various rationales to explain the proposed effects of vicarious reinforcement and vicarious punishment. The first major rationale concerns the informative function of observed outcomes. By witnessing response consequences in others, the observer becomes aware of the prevailing contingencies of reinforcement and punishment and can arrange his or her own behavior so as to maximize rewards and minimize aversions in the observed environment without having directly experienced these contingencies. Knowledge about likely response consequences, obtained through observation, can thus serve to facilitate or inhibit responses similar to those witnessed. According to this view, it is the anticipation of consequences based on the observation of the behavior of others, not immediate past experience, that guides the individual’s action. As Bandura (1971b) put it: “Unlike the operant conditioning interpretation, the social learning formulation assumes that imitative behavior is regulated by observers’ judgments of probable consequences for prospective actions rather than being directly controlled by stimuli that were correlated with reinforcement”. In support of this view, it has been shown (Bandura & Barab, 1971; Kaufman. Baron & Kopp, 1966) that
contingencies of reinforcement and punishment that are believed to prevail do indeed control behavior; they can, in fact, override and dominate the controlling influence of the actually prevailing contingencies.

The second major rationale posits motivational effects of the vicarious conditioning and extinction of emotional arousal. Bandura (e.g., 1971c) acknowledged that much emotional behavior is learned on the basis of direct experiences but nonetheless suggested that empathetic reactions that effect the vicarious conditioning of affective responses are equally, if not more, important. It is assumed that witnessing others express emotions generally induces affective reactions in the observer. It is further assumed that these affective reactions in the observer are concordant with those displayed by the person whose behavior has been witnessed. Bandura (1971c) stated:

“Affective social cues most likely acquire arousal value as a result of correlated experiences between people. That is, individuals who are in high spirits tend to treat others in amiable ways, which arouse in them similar pleasurable affects; conversely, when individuals are dejected, ailing, distressed, or angry, others are also likely to suffer in one way or another”.

Under the assumption of conditioned concordant affective reactions, it is then proposed (Bandura, 1971a) that because “models generally exhibit emotional reactions while undergoing rewarding or punishing experiences”: (a) witnessing a model being rewarded will evoke positive feelings, such as gratification, that promote the imitation of the model’s behavior; and (b) witnessing a model being punished will evoke negative feelings, such as fear, that effect response suppression. Roughly speaking, then, a model who is rewarded for aggressive actions is expected to promote aggression, because aggression becomes associated with pleasant feelings; conversely, a model who is punished for aggressive actions is expected to reduce aggression, because aggression has become associated with feelings of discomfort and uneasiness. It is recognized, however, that conditioned vicarious affect, when not occasionally reinstated, is subject to rapid extinction (Zillmann, 1979). Zillmann notes that the assumption that people generally react concordantly with the emotions displayed by others seems questionable in the light of recent findings. As indicated earlier, it has been observed (Zillmann & Cantor, 1977) that a negative disposition toward a potential model occasions discordant rather than concordant affective reactions.

The remaining rationales proposed by Bandura (1971a, 1971c, 1971d) to explain modeling are secondary to these two primary rationales. They address the consequences, mainly in terms of person perception, of the fact that a model has been witnessed to receive rewards or punishments from some agent for his or her actions. The entire episode is viewed as altering the observer’s perception of both the model and the reinforcing or punishing agent, and this altered perception is seen to influence modeling. The model’s status, for example, is seen to increase as rewards are received for apparently well performed behaviors. The gain in social status should then make the model more appealing and influential. Conversely, punishment is seen to devalue the model, making him or her less worthy of emulation. Similarly, the valuation of the reinforcing or punishing agent can be enhanced through his or her apparent fairness in administering rewards and punishments. When these agents “ misuse their power to reward and punish they undermine the legitimacy of their authority and generate strong resentment” (Bandura, 1971a).

Inequitable reward or punishment, then, is seen to be irritating and disturbing and hence to interfere with the modeling process. Inappropriate reward and punishment, in itself, is viewed as potentially promoting hostility and aggression. “Seeing inequitable punishments may free incensed observers from self-censure of their own actions, rather than prompting compliance, and thus increase transgressive behavior” (Bandura, 1971a). Clearly, Bandura involves
considerations of justice in projecting the effect of vicarious reinforcement and punishment. Equity in reward and in punishment must be perceived as such by the respondent. In case of perceived inequities, the predictions derived from the primary rationales can be modified and possibly overruled. The respondent’s moral judgment is thus implicated with an important mediating function in modeling (Zillmann, 1979). Bandura’s (e.g., 1971a, 1971c, 1971d) analysis of motivational processes in social learning extends to the proposal of behavior control by external and vicarious reinforcement and punishment to self-reinforcement and self-punishment. (1973a):

“At the highest level of psychological functioning, individuals regulate their own behavior by self-evaluative and other self-produced consequences... In this process people set themselves certain standards of conduct and respond to their own behavior in self-satisfied or self-critical ways in accordance with their self-imposed demands”.

The individual is thus seen to internalize prevalent norms or possibly to construct his or her own system of reinforcement and punishment. Then, since the individual functions as the self-rewarding or -punishing agent, he or she behaves so as to maximize the pleasures of self-approval and to minimize the aversions of self-contempt. “Having adopted a self-monitoring system, they [people] do things that give them self-satisfaction and a feeling of self-worth; conversely, they refrain from behaving in ways that result in self-criticism and other self-devaluative consequences” (Bandura, 1973b). Bandura feels that self-reinforcement and self-punishment can readily dominate the influence of external reinforcement and punishment. “There is no more devastating punishment than self-contempt” (1973a). External reinforcement and punishment are seen to exert their greatest influence on behavior when they are consonant with self-generated approval or contempt. Should external inducements, whether rewarding or punishing, prevail over dissonant self-regulatory influences, individuals may show ‘cheerless compliance’; and if they fail to ‘justify’ it adequately to themselves, such compliance, in Bandura’s view, may have maladaptive consequences (Zillmann, 1979).

In aggression, self-reinforcement is viewed as the primary motivating force whenever it is connected with personal pride. Self-punishment for aggression is in evidence when the individual suffers dysphoric feelings of regret and self-accusation upon recognizing his or her actions as a violation of his or her own stand against aggressive actions per se. Since in general, negative sanctions against aggression must be assumed to have been adopted through precept, reinforcement, and modeling, Bandura (1973a, 1973b, 1978) proposed various mechanisms to account for the apparent fact that in hostile and aggressive outbursts, self-imposed restrictions are often disregarded. “By engaging in a variety of self-deceptive cognitive maneuvers, humane, moral people can behave cruelly without self-condemnation” (1973b). The self-absolving practices implicated with the neutralization of self-condemnation for aggression are as follows:

1. **Reconstructing aggression by palliative comparison.**

A practice that is widely employed is to minimize one’s aggressive conduct by pointing to more outrageous practices. The more harmful the other practices, the more likely are given aggressive acts to appear trifling. When aggression is portrayed as fighting gross inhumanities, injurious behavior becomes laudable. In contests of power, reciprocal aggression usually escalates with each side extolling its own violence as benevolent countermeasures but condemning the violence preformed by its adversaries as evil.
2. Justification of aggression by euphemistic labeling.

A closely related form of self-vindicating aggression is to construe one’s aggression in terms of higher values. Given sufficiently noble aims, almost any form of aggression can be justified as righteous. To take a historical example, many massacres have been devotedly perpetrated by crusading Christians in the service of high religious principles. Similarly, in contemporary times violence is frequently espoused in the name of freedom, righteous ideologies, and social order. In everyday transactions, euphemistic labeling is a handy linguistic device for masking reprehensible activities or according them a respectable status. Moral justifications and palliative comparisons serve as especially effective disinhibitors, because they not only eliminate self-generated deterrents but also engage self-reward in the service of inhumane conduct.

3. Displacement of responsibility.

People can be led to behave in an injurious way when a legitimate authority is willing to assume responsibility for their actions. In Milgram’s (1974) study, initially recalcitrant participants continued to escalate shocks to allegedly hazardous levels, despite their victims’ agonizing cries, after the experimenter assured them that he would be fully accountable for the consequences of their behavior. Responsibility for cruel deeds is not always assumed so explicitly, because no one wants to be answerable for such acts. To reduce risks to the selves, superiors usually invite and condone reprehensible conduct by their subordinates in insidious ways that allow them to claim ignorance for what was happening in the event that disclosures arouse public condemnation.

4. Diffusion of responsibility.

Exemption from self-criticism can be achieved to some extent when the responsibility for aggressive practices is obscured and diffused. Collective aggression includes many task functions that must be supported by an organizational apparatus. Departmentalization of destructive activities works in several ways to reduce participants’ sense of personal responsibility for their behavior. Through division of labor, division of decision making, and collective action, people can be contributors to cruel practices and bloodshed without feeling personally responsible or self-contemptuous for their part in it.

5. Dehumanization of victims.

A further means of protection against self-devaluation is to dehumanize the victim. People selected as targets can be divested of human qualities when they are viewed not as individuals with sensitivities but as stereotyped objects bearing demeaning labels, such as ‘gooks’ or ‘niggers’. Self-reproof can be further reduced when subhuman or degrading characteristics are attributed to one’s victims. Foes become ‘degenerates’, ‘pigs’, and other bestial creatures. After victims have been so devalued, they can be cruelly attacked without much risk of self-condemnation.

6. Attribution of blame to victims.

Attribution of blame to victims is still another expedient that can be used for self-assuaging purposes. In this process, aggressors see themselves as essentially persons of goodwill who are forced into punitive actions by villainous adversaries. Victims are condemned for bringing
the suffering on themselves, either by their character defects or by their witless and provocative behavior. Observers of victimization can be affected in much the same way as the aggressors. Seeing victims suffer punitive treatment for which they are held partially responsible leads observers to devalue them (Lerner, 1971; Piliavin, Hardyck & Vadum, 1967). The indignation aroused by scribed culpability, in turn, provides moral support for even more brutal acts by aggressors.

7. Misrepresentation of consequences.

After people have aggressed, additional self-placating measures are available that operate principally through misrepresentation of the consequences of their actions. When people are prompted to self-disapproved conduct under conditions in which they have some choice on whether or not to behave that way, they tend to minimize injurious consequences and to recall potential benefits but not the harm of punishing courses of action (Brock & Buss, 1962, 1964). As long as the damages that aggressors cause are disregarded or belittled, they have little reason to engage in self-ensuring reactions.

8. Graduated desensitization.

The aforementioned practices do not instantaneously transform a gentle person into a brutal aggressor. Rather, the change is usually achieved through a gradual desensitization process in which the participants may not fully recognize the marked changes they have undergone. Initially, individuals are prompted to perform aggressive acts that they can tolerate without excessive self-censure. After their discomfort and self-reproof are extinguished through repeated performance, the level of aggression is progressively increased in this manner until, eventually, deeds originally regarded as abhorrent can be performed without much distress (Bandura, 1978).

With the exception of the final rationale (8), all these proposed mechanisms apparently can serve a dual function. First, the considerations involved can be applied to contemplated hostile and aggressive behaviors, in which case – because anticipations of self-reproach are minimized – aggressive behavior is freed from inhibition. In short, aggression is encouraged – or more literally, de-discouraged. Second, the considerations may be applied after hostile and aggressive acts have been performed. In this case, the proposed mechanisms can be seen to function analogously to Freudian defense mechanisms. The perceived magnitude of transgressions is generally reduced, making it easier, so to speak, for the individual to live with the fact of having committed malicious and violent transgressions. This effect, of course, feeds directly into the proposed process of iterative desensitization (Zillmann, 1979).

In advancing the mechanisms of vicarious reinforcement and punishment and self-reinforcement and self-punishment, Bandura (e.g., 1971a, 1971c) has stipulated the involvement of specific cognitive processes. For vicarious contingencies of reinforcement and punishment to take effect, the individual obviously must attend to the model whose behavior manifests the contingency in question. The individual must also have the capability to retain the information obtained through observation. Bandura suggests that in humans, this required retention is greatly facilitated by symbolic coding and the associated cognitive organization, and by symbolic rehearsal. However, he feels that motor rehearsal may be important as well. Finally, in order for modeling effects to be possible, the individual must be equipped for motor reproduction. Clearly, a modeling effect cannot materialize when the individual is physically unable to execute a response similar to the one observed and to employ feedback from his or her performance to match the model’s response more closely.
More importantly, here, Bandura (e.g., 1973a, 1973b) has stressed the involvement of cognitive processes in the mediation of the behavior-controlling power of the contingencies of reinforcement and punishment. These cognitive processes have been subsumed under the label ‘cognitive control’. They are detailed as follows:

1. Probably the most significant factor of cognitive control entails the cognitive representation of contingencies of reinforcement and punishment. It is assumed that human beings are generally capable of recognizing prevailing contingencies and that as these contingencies are comprehended and an awareness of them is achieved, this awareness of the identified contingencies will guide the individual’s action. Human behavior is thus seen, not as depending on lengthy piecemeal learning but as efficiently cut short by insightful functioning. The thrust of the argument is that human behavior – hostility and aggression being cases in point – “is regulated to a large extent by anticipated consequences of prospective actions” (Bandura, 1973a; italics added), rather than by the incidental history of contingent reinforcing and punishing external events. The anticipations are seen, of course, to be subject to distortion by acute desires and subject to judgmental error.

2. Another aspect of cognitive control, according to Bandura (e.g., 1973a), is the cognitive guidance of behavior. The superior human capacity to process information is said to produce a selective valuation of particular reinforcing or punishing experiences. Whereas in subhuman species, the impact of a reinforcing or punishing event seems to deteriorate mechanically with the passage of time, certain short-lived effects apparently can be arbitrarily extended in humans. Bandura (1973a) suggests that this is so because “transitory external events are coded and stored in symbolic form for memory representation”. This type of representation is seen to facilitate the rehearsal and the reinstatement of particular events. As a result, single incidents that should have only a brief impact on behavior can exert a lasting influence. Some critical experiences, then, can guide behavior to a degree grossly disproportional to their immediate value in terms of reinforcement and punishment.

3. Bandura (e.g., 1973a) finally stresses the function of mental problem solving in the cognitive control of behavior. This function is analogous to Freudian ‘Probehandeln’. The consequences of prospective actions are contemplated and anticipated in thought rather than determined through preliminary overt behavior. This human capability to probe various actions covertly rather than overtly enables the individual to form optimal hostile and aggressive strategies in accord with self-set criteria. Such strategies may be quite independent of the individual’s direct experience with contingencies of reinforcement and punishment relating to the behaviors contemplated. “Alternative courses of action”, Bandura (1973a) wrote, “are generally tested in symbolic exploration and either discarded or retained on the basis of calculated consequences. The best symbolic solution is then executed in action”.

**Acquisition of Aggressive Modes of Behavior**

People ordinarily do not aggress in conspicuous and direct ways that carry high risks of retaliation. Instead, to protect against counterattack, they tend to hurt others in ways that diffuse or obscure responsibility for detrimental action. The injurious consequences of major social concern are often caused remotely, circuitously, and impersonally. Thus, for example, individuals who endorse social practices known to have deleterious physical and psychological effects on others are, in their view, exercising democratic prerogatives; but to
the victims, who must endure the harmful consequences, they are behaving aggressively. Social scientists have examined direct assaultive behavior in minute detail; but remote circuitous acts, which produce widespread injurious consequences, are seldom considered in analyses of aggression. Disputes over the labeling of aggressive acts assume special significance in the case of collective behavior. When collective challenges are labeled as lawlessness, coercive countermeasures will be directed against them; if they are designated as warranted protests against inequitable or grievous practices, efforts are more likely to be directed toward effecting social reforms. A related issue concerns the use of a double standard in judging dissident and institutionally sanctioned aggression. Social agencies are entrusted with considerable coercive power designed to protect the citizenry. Those whose social and economic interests are well served by the system applaud coercive enforcement practices to maintain social control. In contrast, dissenters who seek social change through collective pressure regard coercive countermeasures by control agents as aggressive acts more intent on preserving the status quo than on impartially protecting the welfare of all segments of society. When the dispensers of unwarranted aggression are sanctioned authorities, their injurious behavior is minimized as vigorous pursuit of duty; when unsanctioned individuals manifest the same behavior, they are apt to be judged as acting violently. In areas of social conflict, one person’s violence is another person’s social righteousness.

A comprehensive analysis of aggression, then, requires a broader perspective than is usually found in psychological approaches to the problem. A complete theory of aggression must explain how aggressive patterns are developed, what provokes people to behave aggressively, and what maintains their aggressive actions.

People are not born with preformed repertoires of aggressive behavior. They must learn them in one way or another. Some of the elementary forms of aggression can be perfected with minimal guidance, but most aggressive activities – whether they be dueling with switchblade knives, sparring with opponents, engaging in military combat, or ridiculing an adversary – entail intricate skills that require extensive learning. People can acquire aggressive styles of conduct either by observing aggressive models or from direct combat experience. New modes of behavior are not fashioned solely through experience, either of a direct or of an observational sort. Biological structure, which is determined by genetic and hormonal factors, obviously sets limits on the types of aggressive responses that can be perfected. Biological determination of aggression varies across species, however. Animals must rely on their biological equipment for combat successes. In contrast, people’s capacity to use destructive weapons and the organized power of numbers has greatly reduced their dependence on physical characteristics for aggressive attainments. Modeling and reinforcement influences operate jointly in the social learning of aggression in everyday life. Styles of aggression are learned largely through observation and are refined through reinforced practice. The powerful effects that these two determinants have on the form and incidence of aggression are graphically revealed in ethnographic reports of societies that pursue a warlike way of life and those that display a pacific style of behavior. In cultures that lack aggressive models and devalue aggressive conduct, people live peaceably (Mead, 1935; Turnbull, 1961). In societies that provide extensive training in aggression, attach prestige to it, and make its use rewarding, people spend a great deal of time threatening, fighting, maiming, and killing each other (Bateson, 1936; Chagnon, 1968; Gardner & Heider, 1968; Whiting, 1941).

Observational Learning.
Most of the behaviors that people display are learned observationally, either deliberately or inadvertently, through the influence of example. By observing the actions of others, one forms an idea of how the behavior can be performed; on later occasions, then, the representation serves as a guide for action. Laboratory research has been concerned mainly with observational learning of specific aggressive actions. However, models can teach more general lessons as well. From observing the behavior of others, one can learn general strategies for actions that go well beyond the particular modeled examples (Bandura, 1973). Exposure to aggressive models does not automatically ensure observational learning, for several reasons. First, some people do not gain much from example because they fail to observe the essential features of the model’s behavior. Second, some persons are not influenced by observation of a model’s behavior because they have no memory of it. Past modeling influences achieve some degree of permanence if they are represented in memory by images, words, or some other symbolic form (Bandura, Grusec & Menlove, 1966). Mental rehearsal is another means of retaining what has been learned observationally. Assassins in some of the mass slayings originally got the idea from descriptive accounts of a mass killing. The incident evidently remained salient in their thinking long after it had been forgotten by others; it was then repeatedly revivified and elaborated in thought until, under appropriate instigating conditions, it served as the basis for an analogous murderous action (New York Times, Nov. 13, 1986, p. 1). Even when symbolic representation of modeled activities are developed and retained, however, behavioral enactment may be impeded because the individual does not have the physical capabilities or the means to carry out the necessary aggressive activities.

Social learning theory distinguishes between (1) the acquisition of potentially destructive and injurious behaviors and (2) factors that determine whether a person will perform what he has learned. This distinction is important because not all the things learned are enacted. People can acquire, retain, and possess the capability to act aggressively, but the learning may rarely be expressed if the behavior has no functional value for them or if it is negatively sanctioned. Should appropriate inducements arise in the future, individuals may put into practice what they have learned (Bandura & Walters, 1963; Madsen, 1968). Thus, in predicting the occurrence of aggression, one should be concerned more with predisposing conditions than with predisposed individuals.

In a modern society three major sources of aggressive behavior – family influences, subcultural influences, and symbolic modeling – are drawn on to varying degrees.

Familial Influences.

Investigators who have studied the familial determinants of antisocial aggression report a much higher incidence of familial aggressive modeling for delinquent than for nondelinquent boys (Glueck & Glueck, 1950; McCord, McCord & Zola, 1959). That familial violence breeds violent styles of conduct is further shown by similarities in child abuse practices across several generations (Silver, Dublin & Lourie, 1969). Most assaultive youngsters, however, do not have criminally violent parents. In middle-class families that produce violence-prone offspring, parental aggressive modeling usually takes less blatant forms. The parents of such children favor aggressive solutions to problems, although their actions rarely extend to unlawful performances (Bandura, 1960; Bandura & Walters, 1959). It is in the context of disciplinary activities that children are furnished with vivid parental examples of how to influence the behavior of others. Parents who favor coercive methods have children who tend to use similar aggressive tactics in controlling the behavior of their peers (Hoffman, 1960). There is evidence also that otherwise conforming parents often foster aggressive modes of
response by modeling aggressive orientations in word and attitude rather than in deed (Johnson & Szurek, 1952).

**Subcultural Influences.**

Although familial influences play a major role in setting the direction of social development, the family is embedded in a network of other social systems. The subculture in which people reside and with which they have repeated contact provides a second important source of aggression. Not surprisingly, the highest rates of aggressive behavior are found in environments where aggressive models abound and where aggressiveness is a highly valued attribute (Short, 1968; Wolfgang & Ferracuti, 1967). In these aggressive subcultures, status is gained primarily through fighting prowess. Consequently, good aggressors are the prestigious models on whom members pattern their behavior, even though the larger society disavows these aggressive styles of conduct. At the same time, most societies maintain elaborate social agencies to which they officially assign aggression-training functions. These include military enterprises with their many supporting subsystems. Military establishments can, in a relatively short period, transform people who have been taught to deplore killing as morally reprehensible into skilled combatants who feel little compunction and even a sense of pride in taking human life. They achieve this transformation not by altering personality structures, drives, or traits but by assigning a high moral purpose to warfare and by providing intensive training in the intricate combat techniques. Training proceeds by demonstration and repeated practice of attacks against simulated targets until proficiency is attained. Throughout this process, recruits are subjected to obedience tests and firmly disciplined for noncompliance. Although soldiers are returned to civilian life without undergoing a resocialization process designed to instill aggression restraints or to restore commitment to the dignity of human life, most of them promptly revert to their civilian self-evaluative and reinforcement systems and behave in considerate, peaceful ways. Thus, through moral sanctions alone, society can bring about marked shifts in destructive behavior without greatly changing the person. That fact provides striking testimony that the determinants of human aggression are best sought in social practices.

**Symbolic Modeling.**

Comparative studies show that response patterns portrayed either pictorially or verbally can be learnedobservationally about as well as those presented through social demonstration (Bandura & Mischel, 1965; Bandura, Ross & Ross, 1963.). The third source of aggressive behavior, therefore, is the symbolic modeling provided by the mass media, especially television because of its prevalence and vivid portrayal of events. The advent of television has greatly expanded the range of models available to the growing child. Whereas his predecessors, especially those in middle-class homes, had limited opportunity to observe brutal aggression, the modern child has witnessed innumerable stabbings, beatings, stomplings, stranglings, muggings, and less graphic but equally destructive forms of cruelty before he has reached kindergarten age. Thus, from televised modeling, both children and adults, regardless of their backgrounds, have unlimited opportunities to learn aggressive coping styles and the whole gamut of felonious behavior in the comfort of their homes. Controlled field studies have shown that exposure to televised violence increases interpersonal aggressiveness (Friedrich & Stein, 1973; Leyens et al., 1975; Parke et al., 1975; Steuer, Applefield & Smith, 1971) and that people experiencing appropriate inducements often pattern their criminal activities after ingenious styles portrayed in the mass media (Bandura, 1973).
The influence of symbolic modeling is most striking in the shaping and spread of collective aggression. Like most other contagious activities, a new style or tactic of aggression is initiated by a salient example; it spreads at a rapidly accelerating rate; and, after it has been widely adopted, it is discarded, often in favor of a new form that follows a similar course. Or it may spread to other troublesome areas.

**Learning by Direct Experience.**

Although modeling influences are universally present, patterns of behavior can also be shaped through a more rudimentary form of learning – one that relies on the rewarding and punishing consequences of trial-and-error performance. There have been few experimental attempts to fashion novel forms of aggression by differential reinforcement alone. It would be foolhardy to teach novices how to handle firearms or hand grenades by selectively reinforcing their trial-and-error efforts. Where the consequences of errors can be dangerous or fatal, demonstration rather than unguided experience is the best teacher. Learning through combat experience has been explored to a limited extent in experiments with lower species designed to train docile animals into ferocious fighters (Ginsburg & Allee, 1942; Scott & Marston, 1953). This outcome is achieved by arranging a series of bouts with progressively more experienced fighters under conditions in which the trainee can win fights without being hurt. As fighting skills are developed and reinforced through repeated victories, formerly noncombative animals become more and more vicious in their aggressive behavior. Whereas successful fighting produces brutal aggressors, severe defeats create enduring submissiveness (Kahn, 1951).

Patterson, Littman & Bricker (1967) reported a field study in which passive children were shaped into aggressors through a process of victimization and successful counteraggression. Passive children who were repeatedly victimized, and whose counteraggressive responses often proved effective in halting attacks, not only increased defensive fighting but eventually began to initiate attacks of their own. In contrast, passive children who were seldom maltreated because they avoided others, and those whose counteraggressive responses were unsuccessful, remained submissive in their behavior.

**Instigators of Aggression**

A theory must explain not only how aggressive patterns are acquired but also how they are activated and channeled. Most of the events that provoke people to aggress – such as insults, verbal challenges, status threats, unjust treatment, and inciting actions – gain this activating capacity through learning experiences rather than from genetic endowment. People learn to dislike and to attack certain types of individuals, either through direct unpleasant encounters with them or on the basis of symbolic and vicarious experiences that conjure up hatreds. In addition to paired experiences, stimuli gain aggression-directing functions through association with differential response consequences. When aggression is treated differently depending on the times, places, or persons toward whom it is directed, some informative cues come to signify probable consequences, and people regulate their behavior accordingly. They tend to aggress toward persons and in contexts where it is relatively safe and rewarding to do so, but they are disinclined to act aggressively when to do so carries a high risk of punishment. The different forms that aggression elicitors take are discussed separately in the sections that follow.

**Modeling Influences.**
Human behavior is extensively under modeling stimulus control. Therefore, an effective way to prompt people to aggress it to have others do it. Results of numerous laboratory studies generally show that both children and adult. behave more punitively after they have seen others act aggressively than if they have not been exposed to aggressive models (Bandura, 1973; Goranson, 1970). The eliciting power of modeling influences is enhanced under conditions where observers are angered (Berkowitz, 1965a, Hartmann, 1969; Wheeler, 1965), where the modeled aggression is socially justified (Berkowitz, 1965a; Meyer, 1971), or where the victim invites attack through prior association with aggression (Berkowitz, 1970b). The findings of laboratory studies are essentially corroborated by well-designed field experiments. People who are repeatedly exposed to combative models tend to be more physically assultive in their social interaction than those who observe nonviolent stylus of conduct. In many instances behaving as others do is rewarding because the prevalent modes have proved most functional, whereas divergent courses are less effective or may even bring disapproval. Aggressive behavior, especially when it is cruel and lacks justification, often is socially censured if not self-condemned; and anticipated punishment exerts a restraining influence on injurious conduct. However, social learning theory distinguishes four processes by which modeling influences do not restrain but instead can activate aggressive behavior. First of all, it has been shown that exposure te models engaging in threatening activities without adverse consequences has a disinhibitory effect on observers by extinguishing their fears vicariously (Bandura 1971a). Somewhat similarly, when an individual sees others respond approvingly toward aggressors, he assumes that such behavior is not only acceptable but even expected in the situation. In such instances – that is, when aggressive conduct is regarded as emulative and therefore unencumbered by restraint – aggressive modeling is primarily facilitative. Again, the sight of aggressive behavior in others generates emotional arousal in observers; under conditions where individuals are prone to behave aggressively, any source of emotional arousal can enhance aggressive responding (Tannenbaum, 1972; Zillmann, 1971).

Aggressive modeling can additionally increase the likelihood of aggressive behavior through its stimulus-enhancing effects. Modeled activities inevitably direct observers’ attention to the particular implements being used. This directive attentional influence may prompt observers to use the same instruments to a greater extent, although not necessarily in an imitative way. In one experiment (Bandura, 1962), for example, children who had observed a model pummel a plastic figure with a mallet spent more time pounding other objects with a mallet than those who did not see it used for assultive purposes.

**Aversive Treatment.**

Frustration, which is widely invoked as a principal cause of aggression, subsumes such a diverse set of conditions that it no longer has a specific meaning. Painful treatment, deprivation or delay of rewards, personal insults, failure experiences, and obstructions – all of which are regarded as frustrations – do not have uniform behavioral effects (Bandura, 1969). Even the same treatment can elicit different responses at different intensities and under different learning histories. The heterogeneous events included under the omnibus term ‘frustration’ do have one property in common; they are all aversive in varying degrees. Social learning theorists, then, do not hold that frustration generates an aggressive drive that is reducible only by injurious behavior; instead, they believe that aversive treatment creates a general state of emotional arousal, which can facilitate a variety of behaviors, depending on the types of responses the person has learned for coping with stress and their relative effectiveness (Bandura, 1973). When subjected to adversity, some people seek help and
support; others increase achievement efforts; others display withdrawal and resignation; some aggress; others experience heightened somatic reactivity; and still others anesthetize themselves against a miserable existence with drugs or alcohol. Most people, however, intensify constructive efforts to overcome sources of distress. Several lines of evidence, revised in detail elsewhere (Bandura, 1973), lend greater validity to the arousal-prepotent reponse formulation (espoused by social learning theory) than to the frustration-aggression view (espoused by instinct theory and drive theory). Different forms of aversive stimulation often have dissimilar behavioral effects. Therefore, in the social learning analysis injurious behavior is related to different classes of aversive antecedents. The overall evidence regarding these different forms of aversive instigators supports the conclusion that aversive antecedents, although they vary in their activating potential, are facilitative rather than necessary or sufficient conditions for aggression.

Physical assaults.

If one wishes to provoke aggression, he can simply hit another person, who is likely to oblige with a counterattack. To the extent that counteraggression discourages further assaults, it is reinforced by pain reduction and thereby assumes high functional value in social interactions. Although naturally occurring contingencies favor the development of a strong pain-aggression relationship, there is some dispute over whether pain-induced aggression is innate or acquired.

Azrin (1967) and Ulrich (1966) are major proponents of the nativistic view that pain-induced aggression is an unlearned reflexive behavior. As the determinants of pain-attack reactions are examined more closely, however, they begin to lose their reflexive status. Young animals rarely, if ever, fight when shocked unless they have had some fighting experience, and in some studies shocks produce little or no fighting in 20-30 percent of mature animals (Hutchinson, Ulrich & Azrin, 1965; Powell & Creer, 1969). If aggression is an unlearned dominant response to pain, initial shocks should produce attack, which is not generally the case (Azrin, Hutchinson & Hake, 1963). Contrary to the reflexive elicitation hypothesis, when attack responses are shocked, the painful stimulation reduces and eliminates rather than provokes aggression (Azrin, 1970; Baenninger & Grossman, 1959). The most striking evidence that pain-aggression reactions are determined more by situational factors than by innate organization is the finding that in a small enclosure approximately 90 percent of the shocks provoke fighting, whereas in a larger chamber animals ignore each other and only 2 percent of the shocks elicit attack (Ulrich & Azrin, 1962). As environmental inducements to fight are removed, avoidance and flight responses to painful treatment take priority over attack (Knutson, 1970; Logan & Boice, 1969). Physically painful experiences are facilitative but clearly not sufficient to provoke aggression in animals.

Painful stimulation is an even less consistent elicitor of aggression in humans. Whether or not they counteraggress in the face of physical assaults depends on their combat success and the power of their assailant. Those who have been successful in controlling people through force escalate their counterattacks to compel acquiescence (Edwards, 1967; Peterson, 1971). Given other options, low aggressors are easily dissuaded from making counterattacks under retaliative threats.

Verbal threats and insults.

Social interchanges are typically escalated into physical aggression by verbal threats and insults. The counterattacks evoked by physical assaults are probably instigated more by humiliation than by physical pain. Indeed, it is not uncommon for individuals, and even
nations, to pay heavy injury costs in efforts to ‘save face’ by combat victory. In analyzing the dyadic interchanges of assault-prone individuals, Toch (1969) found that humiliating affronts and threats to reputation and manly status emerged as major precipitants of violence. In addition to their high sensitivity to devaluation, these individuals usually lacked skills for resolving disputes and restoring self-esteem by verbal means. Insult alone is less effective in provoking attack in those who eschew aggression, but it does heighten aggressive responding when hostile modeling and other disinhibitory influences are present (Hartmann, 1969; Wheeler & Caggiula, 1966). In subcultures where social ranking is determined by fighting prowess, status threats – from challengers within the group or from rival outsiders – are quick to provoke defensive aggression (Short, 1968).

How do insults acquire aggression-eliciting potential? The most plausible explanation involves the consequences of a failure to retaliate. Affronts that are not successfully counteracted can have far-reaching effects for victims. Not only do these victims become easy targets for further victimization but they may forfeit the rewards and privileges that go with social standing. To the extent that punishment of insults by counteraggression reduces the likelihood of future maltreatment, the insult-aggression reaction becomes well established.

Adverse reductions in reinforcement.

Aversive conditions of life can also provoke people to aggressive action. Explanations of collective aggression characteristically invoke impoverishment and discontent arising from privations as principal causal factors. Considering that most discontented people do not aggress, however, the view that discontent breeds violence requires qualification. This issue is well illustrated in interpretations of urban riots in ghetto areas. Despite their degrading and exploited conditions of life, comparatively few of the sufferers take active measures to force warranted changes. A vast majority of the disadvantaged do not engage in disruptive public protest; even in cities experiencing civil disturbances, only about 15-20 percent of ghetto residents actively participated in the aggressive activities (Lieberson & Silverman, 1965; McCord & Howard 1968; Sears & McConahay, 1969).

The critical question for social scientists to answer is not why some people who are subjected to aversive conditions aggress, but why a sizeable majority of them acquiesce to dismal living conditions in the midst of affluent styles of life. To facilely invoke the frustration-aggression hypothesis, as is commonly done, is to disregard the more striking evidence that severe privation generally-produces feelings of hopelessness and widespread resignation. Pervasive discontent may be a necessary but not a sufficient cause of collective aggression. Comparative studies indicate that discontent produces aggression not in those who have lost hope but in the more successful members, whose assertive efforts at social and economic betterments have been periodically reinforced and who, consequently, have some reason to expect that coercive action can force additional social change (Caplan, 1970; Crawford & Naditch, 1970). In addition, current explanations of violent protest emphasize relative deprivation, rather than the actual level of aversive conditions, as the instigator of collective aggression. In an analysis of conditions preceding major revolutions, Davies (1969) reports that revolutions are most likely to occur when a period of social and economic advances that instills rising expectations is followed by a sharp reversal.

Finally, people judge their present gains not only in relation to those they secured in the past but also in relation to the benefits accruing to others (Bandura, 1971c). Unfavorable discrepancies between observed and experienced outcomes tend to create discontent, whereas individuals may be satisfied with limited rewards as long as they are as good as, or better than, what others are receiving.
Because most people who feel relatively deprived do not resort to violent action, aversive privations contribute to aggression in interaction with other inducements rather than as an independent determinant. Gurr (1970a) examined three determinants of the magnitude of civil disorders: the level of social discontent, traditional acceptance of forcible tactics to achieve desired reforms, and the balance of coercive power between the regime and the challengers. The multifaceted analysis disclosed that, when forcible tactics are considered acceptable, challengers who possess coercive power will use collective force to change social practices within a system, regardless of the level of discontent. Revolutionary violence, however, requires widespread discontent and dissident coercive power, whereas tactical traditions are of less importance.

Response to inequitable deprivation is further influenced by, among other factors, the social justification and promise of social reforms. Considering the complex interplay of influences, it is hardly surprising that level of deprivation alone, whether defined in absolute or in relative terms, is a weak predictor of collective aggression (McPhail 1971).

**Thwarting of goal-directed behavior.**

Proponents of the frustration-aggression theory define frustration in terms of interference or blocking of goal-seeking activities. In this view, people are provoked to aggression when they are obstructed, delayed, or otherwise thwarted from getting what they want. Research bearing on this issue shows that thwarting can lead people to intensify their efforts, which, if sufficiently vigorous, may be construed as aggressive. However, thwarting fails to produce forceful action in people who have not experienced sufficient positive reinforcement to develop reward expectations and in those who are blocked far enough from the goal that it appears unattainable (Bandura & Walters, 1963; Longstreth, 1966). In instances where thwarting provokes aggression, it is probably attributable more to the implied personal insults than to blocking of ongoing behavior. Consistent with this interpretation, people report more aggression to thwartings that appear unwarranted than to those for which excusable reasons exist, even though both involve identical blocking of goal-directed behavior (Cohen, 1955; Pastore, 1952).

**Incentive Inducements.**

The preceding discussion was concerned solely with aversively motivated aggression, which occupies a more prominent role in psychological theorizing than is warranted empirically. The cognitive capacity of humans to represent future consequences enables them to guide their behavior by outcomes extended forward in time. A great deal of human aggression, in fact, is prompted by anticipated positive consequences. Here the instigator is the pull of expected reward rather than the push of painful treatment. The consequences that people anticipate for their actions are derived from, and therefore usually correspond to, prevailing conditions of reinforcement. This aspect of aggression receives detailed consideration later in this chapter. It should be noted, however, that anticipated outcomes are also partly inferred from observed consequences of others, from what one reads or is told, and from many other cues that in past experience have been reliable forecasters of likely outcomes. Consequently, since judgments based on these inferences are fallible, aggressive actions are sometimes prompted and temporarily sustained by erroneous anticipated consequences. Habitual offenders, for example, often err by overestimating the chances of success for transgressive behavior (Claster, 1967). In collective protest, coercive actions are partly sustained, even in the face of punishing consequences, by expectations that continued pressure may eventually produce social reforms.
Instructional Control.

During the process of socialization, people are trained to obey orders. When obedience to directives is rewarded and noncompliance is punished, orders eventually acquire eliciting power. After this form of social control is established, legitimate authorities can successfully command aggression from others, especially if actions are presented as justified and necessary and the agents possess strong coercive power. As Snow (1961) has perceptively observed, “When you think of the long and gloomy history of man, you will find more hideous crimes have been committed in the name of obedience than in the name of rebellion”. In his studies of obedient aggression, Milgram (1974) has shown that well-meaning adults will administer increasingly severe shocks on command, despite their victims’ desperate pleas. Adults find it difficult to behave counter to peer pressures calling for increasingly hurtful actions, just as they are averse to defying legitimized authority. Their obedient aggression is increased when they see others carry out punitive orders calmly (Powers & Geen, 1972).

It is relatively easy to hurt people on command when their suffering is not visible and when causal actions seem physically or temporally remote from their deleterious effects. Mechanized forms of warfare, where masses of people can be put to death by destructive forces released remotely, illustrate such depersonalized aggression. When the injurious consequences of one’s actions are fully evident, vicariously aroused distress and loss of self-respect serve as restraining influences over aggressive conduct that is otherwise authoritatively sanctioned. Milgram (1974) obtained diminishing obedience as the harmful consequences of punitive actions became increasingly more salient and personalized. The results of his study, and other studies to be cited later, show that it requires particular social conditions rather than monstrous people to produce heinous deeds.

Delusional Control.

In addition to the various external instigators, aggressive behavior can come under bizarre symbolic control; that is, individuals may be led by delusional beliefs to commit acts of violence. Some follow divine inner voices commanding them to murder. Others are instigated to self-protective attacks by paranoid suspicions that others are conspiring to harm them (Reich & Hepps, 1972). Still others are prompted by grandiose convictions that it is their heroic responsibility to eliminate maleficent individuals in positions of power.

A study of presidential assassins (Weisz & Taylor, 1969) shows that, with one exception, the murderous assaults were partly under delusional control. The assassins acted either under divine mandate, through alarm that the president was in conspiracy with treacherous foreign agents to overthrow the government, or on the conviction that their own adversities resulted from presidential persecution. Being unusually seclusive in their behavior, the assassins effectively shielded their erroneous beliefs from corrective influences.

Reinforcers of Aggression

The third major feature of the social learning formulation is concerned with the conditions that sustain aggressive responding. As has been amply documented in psychological research, behavior is extensively controlled by its consequences. The principle applies equally to aggression. Aggressive modes of response, like other forms of social behavior, can be induced, eliminated, and reinstated when the effects they produce are altered (Bandura, 1973).
People aggress for many different reasons. Essentially the same aggressive actions may thus have markedly different functional value for different individuals, and for the same individuals on different occasions. In traditional theories, reinforcement influences are largely confined to the effects of external outcomes impinging directly on the performer. Social learning theory, however, distinguishes three forms of reinforcement control: the influence of direct external reinforcement, vicarious or observed reinforcement, and self-reinforcement.

**Direct External Reinforcement.**

Aggression is strongly influenced by its direct consequences, which take many forms. Extrinsic rewards assume special importance in interpersonal aggression because such behavior, by its very nature, generally creates some painful costs. A person who gets into fights may suffer injury even though he eventually triumphs over his opponents. Under noncoercive conditions, positive incentives are needed to overcome inhibitions arising from the aversive concomitants of aggression.

- **Tangible rewards.** People often resort to aggressive action because it is an effective means of securing desired tangible rewards. Ordinarily docile animals will fight when aggressive attacks produce food or drink (Azrin & Hutchinson, 1967; Ulrich et al., 1963). Observation of children’s interactions shows that approximately 80 percent of the aggressors’ assaultive actions produce rewarding consequences for them (Patterson, Littman & Bricker, 1967). Given this surprisingly high level of positive reinforcement of aggressive behavior, there is no need to invoke an aggressive drive to explain the prevalence of such actions. Aggressive behavior is especially persistent when it is reinforced only intermittently, which is usually the case under the variable conditions of everyday life (Walters & Brown, 1963). Other forms of aggression are similarly sustained by their material consequences, although, for obvious reasons, they are not easily subject to systematic analysis. Delinquent and adult transgressors, for example, can support costly drug habits on income derived from aggressive pursuits; protesters can secure, through forceful collective response, social reforms that affect their lives materially; and nations are sometimes able to gain control over prized territories through warfare.

- **Social and status rewards.** Some aggressive behaviors are maintained because they win approval and status rewards. People commended for punitive actions toward others become progressively more aggressive, whereas they display a relatively low level of aggression when their actions are not treated as praiseworthy (Geen & Stonner, 1971; Staples & Walters, 1964). Aggressive responses, if socially reinforced, increase in frequency; and the reinforcement tends to enhance other forms of aggression as well (Geen & Pigg, 1970; Loew, 1967). Analyses of social reinforcement of aggressive behavior in natural settings generally agree with results of laboratory studies. Parents of assaultive children generally do not condone aggressive behavior in the home; but they do condone, actively encourage, and reinforce provocative end aggressive actions toward others in the community (Bandura, 1960; Bandura & Walters, 1959). In aggressive gangs, members achieve status and recognition through their skills in fighting (Short, 1968). During wartime, otherwise compassionate societies offer medals, promotions, end social commendations on the basis of skill in killing. In the Nazi structure of reinforcement, where enslavement and execution of racial minorities were viewed as meritorious acts of patriotism, promotions in concentration camps were made partly on skill in performing mass murders. Camp commandants proudly compared execution rates as if they were industrial production figures (Andrus, 1969). Lest the Nazi atrocities be dismissed
as an anomalous product of a deranged social system, it should be noted that otherwise socialized people can be led to behave brutally and to take pride in such actions when reinforcement practices are instituted that favor inhuman forms of behavior (see ‘A Badge for Killing Reds’, San Francisco Chronicle, June 11, 1970, p. 23).

• **Alleviation of aversive treatment.** People are frequently subjected to distressing treatment from which they seek relief. Coercive action that is not unduly hazardous is the quickest and most direct means of alleviating adverse conditions, if only temporarily. Defensive forms of aggression are often reinforced by their capacity to terminate humiliating and painful treatment. Reinforcement through pain reduction is well documented in studies showing that children who are often victimized but terminate the maltreatment by successful counteraggression eventually become highly aggressive in their behavior (Patterson, Littman & Bricker, 1967).

In the social learning analysis, defensive aggression is sustained to a greater extent by anticipated consequences than by its instantaneous effects. People will endure reprisals on expectations that their aggressive efforts will eventually remove deleterious conditions. Aggressive actions may also be partly maintained in the face of painful counterattack by anticipated costs or timidity. In aggression-oriented circles, failure to fight back can arouse fear of future victimization and humiliation. A physical pummeling may, therefore, be less distressing than repeated social derision or self-contempt. In other words, humans do not behave as unthinking servomechanisms directed solely by immediate response feedback. Under aversive conditions of life, people will persist, at least for a time, in aggressive behavior that produces immediate pain but prospective relief from misery.

• **Expressions of injury.** Proponents of drive theories contend that the purpose of aggression is injury. It is therefore widely assumed that aggressive behavior is reinforced by signs of suffering in the victim. According to Sears, Maccoby & Levin (1957), pain cues become rewarding through their repeated association with tension relief and removal of frustrations. Feshbach (1970), however, interprets the rewarding value of pain expression in terms of self-esteem processes. Perception of pain in one’s tormentors is experienced as satisfying because successful retaliation restores the aggressor’s self-esteem.

A contrasting view is that signs of suffering ordinarily function as inhibitors rather than as positive reinforcers of aggressive behavior. Because of the potential dangers of violence, all societies punish cruel and destructive acts, except under special circumstances. In the course of socialization, most people adopt societal standards that regard ruthless aggression as morally reprehensible. Consequently, aggression that produces suffering in others elicits both fear of retaliation and self-condemnation, which tend to inhibit injurious attacks. Studies of the effect of pain expressions by suffering victims support the inhibitory view; that is, aggressors behave less punitively when their victims express anguished cries than when they suffer in silence (Baron, 1971a, 1971b; Geen, 1970). Contrary to drive theory, pain cues reduce aggression regardless of whether the assailant is angered or not. People are even less inclined to behave cruelly when they see their suffering victims than when they merely hear the distress they have caused them (Milgram, 1974).

The scope of the experimental treatments and the populations studied are too limited to warrant the strong conclusion that pain expressions never serve as positive reinforcers of aggressive behavior. A gratuitous insult from a stranger in a laboratory may not create sufficient animosity for the victim to derive satisfaction from injurious retaliation. It is a quite different matter when an antagonist repeatedly tyrannizes others or wields his power in ways that make life miserable for them. In such instances, news of the misfortune, serious illness, or death of an oppressor is joyfully received by people who ordinarily respond more
compassionately to the adversities befalling others. However, the alleviation of aversive treatment from an injured oppressor, rather than his suffering, may be the primary source of satisfaction. In experimental investigations pain expression occurs without the other extraneous rewards accompanying victory over antagonists.

From the standpoint of social learning theory, suffering of one’s enemies is most likely to be rewarding when hurting them relieves discomfort or benefits aggressors in other ways. When aggressors suffer reprisals or self-contempt for harming others signs of suffering function as negative reinforcers that deter injurious attacks. Under certain conditions, however, pain expressions may assume positive reinforcing properties. Examples can be cited of societal practices where cruel acts are considered praiseworthy by those in positions of power. Such bizarre reinforcement contingencies can breed people who take pleasure in inflicting pain and humiliation. Some of the most horrid illustrations of this phenomenon are documented in the proceedings of the Nuremberg trials. A comandant at Auschwitz, for example, had a window installed in a gas chamber so that he could watch the gruesome massacres (Andrus, 1969). Additionally, clinical studies of sexual perversion have disclosed cases in which pain expressions acquire powerful rewarding value through repeated association with sexual gratification. In these cases, the individual derives erotic pleasure from inflicting pain on others or on himself.

There are no conceptual or empirical grounds for regarding aggression maintained by certain reinforcers as more genuine or important than others. A comprehensive theory must account for all aggressive actions, whatever purposes they serve. To restrict analysis of aggression to behavior that is reinforced by expressions of injury is to exclude from consideration some of the most violent activities, where injury is an unavoidable concomitant rather than the major function of the behavior.

Questions also arise about the distinction traditionally drawn between ‘instrumental’ aggression, which is supposedly aimed at securing extraneous rewards, and ‘hostile’ aggression, the sole purpose of which is presumably to inflict suffering (Feshbach, 1970). In all instances, the behavior is instrumental in producing certain desired outcomes, be they pain, status rewards, or material gain. It would be more accurate to designate aggressive behaviors in terms of their functional value rather than whether or not they are instrumental.

• **Vicarious Reinforcement.** People repeatedly observe the actions of others and the occasions on which they are rewarded, ignored, or punished. Observed outcomes influence behavior in much the same way as directly experienced consequences (Bandura, 1971c; Kanfer, 1965). People can, therefore, profit from the successes and mistakes of others as well as from their own direct experiences. In general, seeing aggression rewarded in others increases, and seeing it punished decreases, the tendency to behave in similar aggressive ways (Bandura, 1965; Bandura, Ross & Ross, 1963b). The more consistent the observed response consequences, the greater are the facilitatory and inhibitory effects on viewers (Rosekrans & Hartup, 1967).

Vicarious reinforcement produces its behavioral effects through several mechanisms (Bandura, 1971b). First of all, it conveys information to observers about the types of actions likely to be approved or disapproved and the specific conditions under which one can perform them. Second, if observers see that someone is rewarded for certain behavior, the vicarious reinforcement is motivational; it encourages observers to believe that they can gain similar rewards for analogous performances. Finally, if observers see that someone escapes punishment for an aggressive act, the vicarious reinforcement is disinhibitory. Indeed, the legal system of deterrence rests heavily on the restraining (or inhibiting) function of exemplary punishment (Packer, 1968).

A number of social factors may substantially alter the customary effects of observed consequences. Models and observers often differ in distinguishable ways, so that behavior
considered approvable for one may be punishable for the other, depending on differences in sex, age, and social status. When the same behavior produces unlike consequences for different members, observed reward may not enhance the level of imitative aggressiveness (Thelen & Soltz, 1969).

Under some circumstances, observed punitive treatment raises rather than lowers aggression. When societal agents misuse their power to reward and punish, they undermine the legitimacy of their authority and generate strong resentment. In such instances, the sight of inequitable punishment – instead of prompting compliance – may free incensed observers from self-censure of their own actions and thus increase aggressive behavior. Indeed, leaders of protest movements sometimes attempt to rally supporters to their cause by selecting aggressive tactics calculated to provoke authorities to punitive actions. Ordinarily, observed punishment tends to devalue the models and their behavior, whereas the same models assume emulative qualities when their actions are rewarded. However, aggressors may gain rather than lose status in the eyes of their peers when they are punished for a style of behavior valued by the group or when they aggress against social practices that violate the professed values of society. It is for this reason that authoritative agencies are usually careful not to discipline challengers in ways that may martyr them.

The manner in which aggressors respond to the consequences of their behavior can also influence the way in which observers later react when they themselves are rewarded for displaying similar responses. Ditrichs, Simon & Greene (1967) report that children who observe models express progressively more hostility for social approval later increase their own output of hostile response under positive reinforcement. However, when models reduce the hostile responses that bring them praise, or react in random fashion as though they are uninfluenced, observers do not increase their expression of hostility, even though they are praised whenever they do so. Susceptibility to direct reinforcement, therefore, can be increased by observed willing responsiveness but reduced by observed resistance.

**Self-Reinforcement.** A theory that viewed the performance of aggression solely in terms of external rewards and punishments would be incomplete, because humans can, and do, regulate their own actions to some extent by self-produced consequences. They do things that give them self-satisfaction and a feeling of self-worth, and they refrain from behaving in ways that result in self-criticism and other self-devalutative consequences. Because of self-reactive tendencies, aggressors must contend with themselves as well as with others when they behave in an injurious fashion.

One can distinguish several ways in which self-generated consequences enter into the self-regulation of aggressive behavior. At one extreme are individuals who have adopted self-reinforcement codes that make aggressive behavior a source of personal pride. Such individuals readily engage in aggressive activities and derive enhanced feelings of self-worth from physical conquests (Bandura & Walters, 1959; Toch, 1969). Lacking self-reprimands for hurtful conduct, they are deterred from cruel acts mainly by reprisal threats. Idiosyncratic self-systems of morality are not confined to individuals or fighting gangs. In aggressive cultures, where prestige is closely tied to fighting prowess, members take considerable pride in aggressive exploits.

In the course of socialization, most individuals also acquire, through example and precept, negative sanctions against cruel conduct. As a result, they are restrained from injurious aggression by anticipated self-censure. There is no more devastating punishment than self-contempt. In a study by Bandura & Walters (1959), adolescents who valued compassionate behavior responded with self-disapproval, remorse, and attempts at reparation even when their aggressive activities were minor in nature; in contrast, assaultive boys experienced relatively few negative self-reactions over serious aggressive activities.
Rarely is aggression uniformly self-rewarded or self-punished, irrespective of the victim or of the circumstances under which it is performed. Although self-reinforcing influences serve as regulators of conduct, they can be dissociated from censurable deeds. By engaging in self-absolving practices, humane and moral people can behave cruelly without self-condemnation. The self-exoneration takes many different forms (Bandura, 1978).

Psychophysiology of Fear and Anger

According to Bandura (1973b), there are several lines of evidence that lend support to the social learning formulation. Psychophysiological studies have been conducted in which people undergo fear- and anger-provoking experiences while changes in their physiological reactions are simultaneously recorded. Results show that fear and anger have similar physiological correlates (Ax, 1953; Schachter, 1957). By looking at the physiological records alone, one could not distinguish whether the individuals had been frightened or angered. The varied array of emotions experienced phenomenologically apparently stem from a common diffuse state of emotional arousal rather than from distinct drive states. Whether people experience their emotional arousal as fear, anger, euphoria, or some other state depends not on internal somatic cues, but on a number of external defining influences. People judge their emotions partly from the nature of the instigating conditions. Visceral arousal generated by threat is experienced as fear; arousal produced by thwarting is experienced as anger; and that resulting from irretrievable loss of valued objects, as sorrow (Hunt, Cole & Reis, 1958). Even the same source of physiological arousal may be experienced as different emotions, depending on the emotional reactions of models. Affective modeling cues can give definition to emotional states of uncertain origin or provide direction in ambiguous situations where people know the source of their arousal but are unsure about how they are supposed to react to it. Schachter & Singer (1962) provide suggestive evidence that people under drug-induced arousal who do not know to what to attribute the excitation experience the arousal as aggression when others respond hostilely, but they experience the same state as euphoria when they see others behaving in a jocular way. To some extent, emotional states produced by environmental stimuli are likewise susceptible to relabeling (Nisbett & Schachter, 1966; Ross, Rodin & Zimbardo, 1969).

A number of predictions follow from the social learning formulation which differ from the traditional frustration-aggression hypothesis. Under conditions where individuals are prone to behave aggressively, any source of emotional arousal can enhance aggressive behavior. Results of several experiments have bearing on this prediction. Zillmann (1969) produced anger arousal, sex arousal, or no arousal in adults, and then provided them with an opportunity to behave punitively by shocking another person. Compared with the behavior of nonaroused subjects, both anger and sex arousal enhanced punitiveness. Indeed, aggressiveness was determined more by level of arousal than by its source. Geen & O’Neal (1969) similarly found that aversive, though nonirritating, noise increased subjects’ punitiveness, especially if they had had prior exposure to aggressive models. It might be argued that high sex arousal and noise have some frustrating properties. An experiment performed by Christy, Gelfand & Hartmann (1971) provides a more definitive test of predictions from the frustration-aggression and the arousal-prepotent-response formulations. After observing aggressive or nonaggressive models, groups of children engaged in competitive activities in which one member consistently won and the other was a consistent loser. Other pairs played noncompetitively. Following these experiences, the children’s imitative aggressiveness was measured. Competitors showed mere imitative aggression than noncompetitors; however, victors increased their aggression just as much as
those who experienced failure-induced frustration. These findings are especially interesting since Lorenz (1966) prescribes competitive activities as a means of reducing aggressive behavior.

The social learning formulation further predicts that arousal decreased through nonaggressive means will reduce aggression as much as, or even more than, will acting aggressively. In drive theories, the aroused aggressive drive presumably endures until discharged by some form of aggressive activity. From the social learning perspective, anger arousal dissipates, but it can be repeatedly regenerated on later occasions through ruminating on the anger-provoking incidents. Thus, by thinking about past insulting treatments, a person can work himself into a rage long after the original emotional reactions have subsided. The persistence of elevated anger arousal is attributed to self-generated arousal rather than to the existence of an undischarged reservoir of aggressive energy. To illustrate the different views, let us consider the example of a person who becomes angered by an apparent social slight, but discovers that the invitation to the social function has arrived in the next mailing. He is likely to show an immediate drop in anger arousal and aggressiveness without having to assault or denounce someone in order to reduce a lingering aggressive drive.

A number of investigators have compared the relative effectiveness of different treatment experiences in reducing aggressive behavior. Mallick & McCandless (1966) found that explanation of why a provocateur behaved obnoxiously reduced children’s aggression toward him, whereas the children’s free expression of physical aggression did not decrease their punitive behavior. This finding is in agreement with Kaufmann & Feshbach (1963), who reduced students’ inclination to behave aggressively by cognitively restructuring the provocative situation.

The literature contains more evidence on the effects that expressions of aggression, either in fantasy or in action, have on subsequent aggressive behavior. Controlled studies with children (Feshbach, 1956; Freeman, 1962; Kenny, 1952; Nelsen, 1969) indicate that, far from producing cathartic reductions, participation in aggressive activities within a permissive setting maintains the behavior at its original level and may actually increase it. In a study of adults, Kahn (1966) found that angered students who ventilated their resentment to a sympathetic listener increased their dislike for the antagonist significantly more than controls who merely sat for an equivalent time, and that during the recovery period the catharted subjects were generally more aroused physiologically.

The research cited above suggests that ventilative therapies, aimed at draining aggressive drives, may be inadvertently reinforcing aggressive tendencies. By contrast, social learning treatments, which have proved highly successful (Bandura, 1969), help people from the outset to acquire better ways of dealing with social problems so that they have less to get angry about.

Aggressive behavior of long standing is reliably reduced by a variety of procedures including modeling alternative modes of response (Chittenden, 1942); selective reinforcement in which aggressive actions are nonrewarded while constructive coping methods are actively supported (Hawkins et al., 1966; Patterson, Cobb & Ray, 1971; Sloane, Johnston & Bijou, 1967; Zeilberger, Sampen & Sloane, 1968), elimination of fantasied instigators of violent outbursts (Agras, 1967), and development of competencies that provide new sources of reward (Staats & Butterfield, 1965).

Under certain conditions expression of aggression can decrease its incidence, although the reductive affects do not occur through drainage of aggressive-drive forces. Angry displays, especially if accompanied by threats, may so intimidate antagonists that they cease behaving in provocative ways. Interpersonal interactions are somewhat ambiguous as to exactly who does what to whom and why, with the result that events can be easily misjudged or distorted. When malign intent is misattributed to the actions of others, anger arousal can be
ruminatively generated to the point where the aggrieved person acts with inappropriate hostility as if he were designedly maltreated. To the extent that verbalized resentment clarifies matters, it can diminish autistically produced aggression. Moreover, behaving aggressively can arouse fear and self-censure over the injurious consequences of one’s actions, and thus have reductive effects through inhibitory processes. Finally, aggressive protest often achieves desired changes in social practices, thereby removing chronic instigators of the behavior. The belief that human behavior is impelled by inner aggressive forces is nonetheless so strongly ingrained in psychological thinking that aggression decrements, when they do occur, are automatically attributed to cathartic drive discharges without the consideration of more plausible processes.

Frustration-aggression theory predicts that vicarious participation in aggression, as in watching televised violence, similarly drains the aggressive drive, thereby reducing the likelihood of aggressive behavior. This issue was debated by the illustrious Greek savants long before the advent of commercial television. Aristotle contended that emotional displays purged emotions, whereas Plato maintained that they aroused them. As in most of their disputes over the nature of man, Plato turned out to be the better psychologist. Numerous studies show, almost without exception, that exposure to aggressive modeling tends to increase, rather than reduce, aggressive tendencies in observers (Bandura, 1973; Goranson, 1970; Siegel, 1970).

Although there is little evidence to support cathartic reduction of aggression, it is not uncommon for people subjectively to experience relief as a result of viewing violence. From the self-arousal view, people feel better after watching televised programs not because their aggressive drives have been drained, but because engrossment in absorbing activities provides relief from self-generated distress. They could experience equally salutary effects by getting involved in an absorbing book, an interesting talk, or other activities lacking violent content which effectively turn off upsetting trains of thought.

There is a third implication of social learning theory that differs from traditional views. Frustration or anger arousal is a facilitative but not a necessary condition for aggression. Frustration is most likely to provoke aggression in people who have learned to respond to aversive experiences with aggressive attitudes and actions. In an early study bearing on this issue, Davitz (1952) demonstrated that, following arbitrarily insulting treatment, aggressively trained children behaved more aggressively, whereas cooperatively trained children behaved more cooperatively.

The influential role of social learning experiences in determining aggressive responses is strikingly revealed in research by Delgado (1967). It has been repeatedly shown that electrical stimulation of the hypothalamus evokes attack-like behavior in animals. Delgado added a social dimension to the research which threw new light on thalamic control of aggression. He recorded the social behavior of a small colony of monkeys at normal times and at periodic intervals when a member of the colony was electrically stimulated through radio-transmission procedures.

Thalamic stimulation of a monkey who assumed a dominant role in the colony instigated him to attack subordinate male members, but the stimulated boss monkey did not assault the females. By contrast, thalamic stimulation elicited cowering and submissive behavior in a monkey of low social rank. Even more impressive is evidence that electrical stimulation of the same cerebral mechanism can evoke markedly different behavior in the same animal as his social rank is modified by changing the membership of the colony. Thus, thalamic stimulation elicited submissiveness in the animal when he occupied a low hierarchical position, but elicited marked aggressiveness when he was the dominant member in the group.
**Criticism of Social Learning Theory**

This theory of aggression is, according to Rummel (1977), fundamentally behavioral. There is concern about goals and intentions, but the focus is on stimulus-response, on observable response contingent experiences, on patterns of reinforcement. Laboratory experiments provide the research setting, and the findings emerge from the quantitative analysis of observed and systematized data. In this they differ from the naturalistic observations of instinctualists and the case-intuitive ‘verstehen’ approach of psychotherapists.

This behavioral approach is shared by those espousing what is perhaps the dominant view of aggression today, namely, that aggression is a consequence of frustrated goals, desires, needs, or drives. The intensity with which a goal is desired, the degree to which frustration blocks this desire, and the history of an individual’s frustration presumably predict the amount of his aggression (Rummel, 1977).

Although the modeling position has led to impressive and consistent experimental findings, a number of pertinent issues in their interpretation remain unsolved. Bandura & Walters (1963) have attributed the modeling findings to two different processes, each of which results in an increase in the number or intensity of the child’s aggressive responses. The first process has to do with the child’s learning new responses not previously in his repertory – an effect which can be inferred if the child imitates highly novel aggressive responses exhibited by the model. The second process is disinhibitory; observing an aggressive model weakens the child’s inhibitory tendencies and leads him to emit aggressive responses already in his repertory (Zigler & Child, 1969).

Appeal to this second process, a disinhibitory effect, immediately raises the question of what determines the level of the child’s aggressive and inhibitory tendencies at the time he encounters the model. Clearly, disinhibitory effects of the aggressive model will depend upon the level of the child’s existing tendencies to emit aggressive responses and to refrain from doing so. There is a number of possibilities here. One, rejected by Bandura & Walters, is that interindividual variation in tendency to emit aggressive responses reflects variation in innate aggressive drive. A second possibility, which can be found in the work of Bandura & Walters, is that the level of inhibition is determined by the past history of reward and punishment the child has received for behaving aggressively. Thus, Bandura & Walters ascribe the inhibiting effect of seeing an aggressive model punished to its heightening the child’s anticipation of punishment. Once the modeling theorists turn their attention to variation in the child’s tendency to express or inhibit aggressive behavior, the child’s anticipation of punishment for aggression, and the learning histories that give rise to them – as it seems they must do – they appear very similar to the acquired-drive theorists who have preferred to focus on the nature of the parent-child relationship.

The first process to which Bandura & Walters appeal, the learning of novel acts through viewing a model, also raises certain questions. As Patterson, Littman & Bricker (1967) have noted, it is not altogether clear what Bandura & Walters mean by a novel act, whose occurrence they use as a criterion that learning has taken place. Bandura & Walters’ novelty criterion appears to rest not so much on the child’s emitting novel responses as on his emitting particular aggressive responses at a higher frequency than would be expected in the particular experimental settings employed (Zigler & Child, 1969).

A more irksome problem here is the question of why the child imitates the model at all. Bandura (1965) has now advanced an explicit theoretical rationale for the modeling-learning effect, in which he relies heavily on stimulus contiguity “mediated by cue-producing symbolic responses which exercise discriminative stimulus control over corresponding overt
performances” (Bandura, 1965). He has also pointed out that both the acquisition of a potential response through imitation and the actual performance of that response are influenced by a variety of motivation and reinforcement variables. This theoretical elaboration of what originally appeared to be a simple contiguity theory provides modeling theorists with an answer to the commonsense assertion advanced by Patterson, Litman & Bricker (1967) that not all children imitate all models all the time. Bandura could also reply that new learning through modeling varies from person to person because the perceptual and cognitive aspects of response are influenced by a variety of motivational variables. The point Zigler & Child (1969) would make is that such perceptual and cognitive variables, as well as the motivational variables, are themselves determined by the past learning history of the child, as well as by his developmental level.

Thus, we see again that the modeling theorist, in attempting to elucidate an extremely interesting effect, has moved from a simple formulation to a much more complex one that shares features with a number of already existing theoretical positions. This movement, and especially the emphasis on the perceptual and cognitive activities of the child, would appear to be a healthy development away from a mechanistic view of modeling and imitation in children. As modeling theorists are aware, much more remains to be done before we can fully determine how exposure to an aggressive model will affect the child’s aggressiveness (Zigler & Child, 1969).

Applications of modeling theory to data other than those from the laboratory have stressed the role of socializers other than parents. Thus, in interpreting the aggression in delinquent children, Bandura & Walters have considered not only the parents’ role as models and as direct reinforcers, but also the general prevalence of aggressive models in delinquent subcultures. Their approach leads them to suggest that “the crucial psychological process in the development of aggressive antisocial patterns may, in many cases, be identification with an aggressive prototype rather than a hostile reaction to emotional deprivation” (Bandura & Walters, 1963). This application of modeling theory is very similar to some of the extremely societalistic interpretations of delinquency. Their emphasis on peer relations is surely appropriate. Yet this is a topic on which a modeling interpretation seems to encounter definite difficulties. The frequent association of delinquency with fatherlessness has helped create interest in studying how growing up without a father affects children. A good deal of research has by now been done on this question (see Zigler & Child, 1969, for the literature), and it has resulted in some rather consistent findings. Father absence affects boys more than girls and tends to produce in them during early childhood diminished aggression and generally more effeminate behavior. This early childhood effect of father absence would appear to be quite consistent with modeling theory. However, the long-term effect of father absence, especially in lower-class and delinquent subcultures, is not. The long-term effect in boys includes extremely exaggerated aggression which has often been found to be combined with a latent femininity. The most common interpretation has been that such aggression reflects a rebellion against the early protective feminizing environment, a search for masculine identity. It is difficult to see how modeling theory can in itself encompass the findings of exaggerated masculinity in boys who have had no masculine model in the home. The modeling theorist could here refer to the contemporary models (for example, peers) in the current social milieu as the aggressive prototype, but this leaves important questions unanswered: Why, for example, do subcultures characterized by father absence value so highly the exaggeratedly aggressive model? Furthermore, if the aggression here results from imitating the aggression of others, where does the femininity of the same boys come from? It would appear that, while modeling plays a role, any complete understanding of their exaggerated aggression in adolescence and later life requires more dynamic considerations. Such considerations would include the entire spectrum of child-rearing practices, especially those
practices that influence the development of social control. Pertinent here is an especially intriguing study by Wilkins (1960) of the positive relationship between father absence and the incidence of criminality, which may well be considered a form of hypermasculine behavior. His study suggests that the father is important not as an aggressive model but rather for his role in developing the child’s social control. The same point emerges from cross-cultural analysis of the incidence of crime (Bacon, Child & Barry, 1963), showing that crime is positively correlated with customs making for the young boy’s having no father figure close at hand.

There is one principle on which both social-learning theorists, such as Bandura & Walters (1963), and the more classical theorists can agree. The aggressive responses of children are increased by positive reinforcement of these responses, whether the reinforcement comes from parents, peers or others (Zigler & Child, 1969).

Comparison of societies, or groups within societies, has repeatedly suggested that overt aggression is higher, and guilt about it lower, in groups that value and reward aggression than in groups that devalue and punish it. The cultural standards can sometimes be traced to economic needs, household competition, or kinship relationships (Whiting & Whiting, 1960). Studies indicating a dependence of aggression socialization upon such features as geography, social organization, and beliefs have been made by Biesheuvel (1959), Roy (1950), Havighurst & Neugarten (1955), LeVine (1960), and Spindler & Spindler (1957). Within our society subgroups have been found to vary in reinforcement of aggression in their children (c.f. Clausen & Williams, 1963; Davis, 1943; Davis & Dollard, 1940; Davis & Havighurst, 1947).

Reinforcement contingencies outside the home have also been found to be important determinants of the child’s general level of aggression (c.f. Henry & Sharpe, 1947; Brown & Elliot, 1965; Patterson, Ludwig & Sonoda, 1961; Cowan & Walters, 1963; Davitz, 1952; Hollenberg & Sperry, 1951; Lovaas, 1961).

**Cultural Learning Theory**

There is one final approach to consider, that of the cultural anthropologists such as Alland (1972). Aggression is seated within a culture; it is learned in the same way a language is learned. To understand it, the research should focus on the cultural context of aggression and its function in the maintenance and development of the culture.

The basic observation is that some cultures are relatively free of collective aggression and seldom manifest interpersonal violence and destructiveness. Therefore, although man has the potentiality for aggressive behavior, whether it is manifest is a matter of cultural learning. Man is not aggressive. Cultures are aggressive.

The relative nonviolence of some cultures is a favored observation used to counter the theory that aggression is instinctual. See, for example, Fromm (1973) and the reviews of Lorenz in Montagu (1973), where this point is often made. Those using this argument often neglect to consider that aggression is subjective in meaning. A stare in one culture may be as aggressive as a slap in another. As Rummel (1977) has argued, it is the self-assertive and forceful meaning of aggression that is important in intercultural comparisons, not an objective manifestation such as physical violence.

Second, those using the comparative culture argument deal with structures, not dynamics. Surely, cross-sectionally, some cultures manifest little aggression. They may live in harmonious equilibrium, established over centuries, with their environment and with their neighbors. But let the environment be modified – by the exhaustion of land to be divided among villagers, by the introduction of new tools, or by natural disasters – and the rapidly
changing situation will create aggression of a more physical variety, simply because physical aggression is instrumental for establishing new fundamental relationships in a situation of change and uncertainty.

Clearly, the cultural approach shares with social learning theory the emphasis on the external sources on learning. They differ in methodology, one centering on quantitative laboratory experimentation, the other on the naturalistic observation and absorption of cultures. They differ also on the focus. Learning theory emphasizes that which impinges on the individual. It is individual centered, stressing the development of aggression as an interaction between response, reinforcement, stimuli, and so forth. The cultural approach, however, is less concerned with the individual and some determinate variables than with the total field of norms, meanings, and values within which certain behavioral patterns develop (Rummel, 1977).

Cognitive Scripts

Recently, Huesmann & Eron (1984) have begun to examine the development of characteristic styles of aggressive behavior from a more cognitive, information-processing perspective. They hypothesized that social behavior is controlled to a great extent by cognitive scripts, schemas, and strategies that have been stored in memory and are used as guides for behavior. These strategies must be encoded, rehearsed, stored, and retrieved in much the same way as are other strategies for intellectual behaviors. These strategies might be closely associated with specific cues in the encoding context, or might be abstractions unconnected to specific cues.

By encoding is meant the formation of a representation of an external stimulus in the memory system. Under this view an aggressive strategy must be encoded, retained in memory, and retrieved later on in order to influence the child’s behavior. A number of situational and interpersonal factors could influence each of these three processes.

To encode an aggressive response a child must attend to the behavior and must not reject the behavior as completely inappropriate. To maintain the encoded strategy in memory, the child must rehearse it. Through ‘elaborative’ rehearsal the child may develop abstractions of the aggressive strategies. Finally, to retrieve the strategy, the child must be able to access it in memory. According to the encoding specificity principle, the presence of cues that were also present at encoding time facilitates such retrieval.

Several predictions are suggested from this perspective. First, the authors expect the child to develop a characteristic style of aggressive or nonaggressive behavior which would become relatively stable across time and situations as the child matures. This does not mean that situational factors would be unimportant. The stability would be a stability of relative position in the population. Situational factors would be important in cueing the retrieval of certain strategies and in continuing the learning process. However, once a schema of strategies for social behavior had been firmly established, it would probably be very resistant to change. Further, the information-processing styles that facilitated the acquisition of aggressive strategies originally are likely to persist. Thus, the more aggressive child becomes the more aggressive adult.

According to this model aggression can become self-perpetuating despite severe negative reinforcements that accrue to the child. The more the child behaves aggressively, the more the child is exposed to aggressive scenarios to be encoded. The more scenarios the child has encoded, the more are available to be rehearsed. The more the scenarios are rehearsed, the more likely are they to be retrieved when a social problem arises. The more likely aggressive
strategies are to be retrieved, the less likely are other strategies to be retrieved. The child behaves aggressively, and the cycle continues.

Huesmann & Eron (1984) investigated the role of two cognitive variables in the hypothesized aggression cycle: Intellectual functioning and fantasizing. A number of studies have revealed a relation between aggression and poor performance on standardized tests of intellectual ability (Caplan, 1965; Huesmann et al., 198?). However, the nature of the relation between aggression, poor academic performance, and low IQ test scores is not yet clear (Feshbach & Price, 1984). Reduced intellectual competence is undoubtedly a frustrator that is likely to raise the child’s arousal level and prevent the child from obtaining positive reinforcements for the prosocial types of school behaviors that compete with aggressive responses. However, the child with lower intellectual competence may also be less able to foresee the eventual inappropriateness of aggressive behavior, and, therefore, may be more likely to encode aggressive strategies. The intended lesson of punishment in response to aggression may be lost on the lower-IQ child. By rehearsing the aggressive strategies the child may be able to obtain vicariously the rewards that are unobtainable in his/her environment, but this rehearsal only makes aggressive responding more likely by establishing the strategy more firmly in memory. In addition, the lower-IQ child may be less facile at searching memory for alternative response strategies to the dominant aggressive strategy that is first retrieved. The previous reasoning suggests that diminished intellectual functioning would be precursor of heightened aggressiveness. However, there are also reasons to believe that the emission of aggressive behavior would lead to decreased intellectual functioning. Aggressive responding may interfere with positive social interactions with teachers and peers that are necessary for intellectual advancement. Thus, the continual emission of aggressive responses may make school achievement even less likely and lead to a more intellectually sterile environment in which intellectual competence is even further reduced.

A second variable that should be important in this hypothesized aggressive cycle is the child’s use of aggressive fantasy. From an information-processing perspective fantasizing about aggressive behavior is a form of rehearsal. Thus, the more a child fantasizes about aggressing, the more readily the child will retrieve aggressive strategies and the more the child will aggress. Of course, the more the child behaves aggressively or observes others behaving aggressively, the more material the child obtains for his/her aggressive fantasy. So the cycle again continues.

**Zillmann’s (1979) Theory of Incentive- and Annoyance-Motivated Hostility and Aggression**

Zillmann contends that human hostility and aggression cannot be fully understood on the basis of learning mechanisms alone and that some form of cognitive guidance must be invoked to explain the human characteristics of the behavior in question. However, regarding the ‘cognitive control’ of hostility and aggression, Zillmann presents a view that differs considerably from the one espoused by Bandura.

As Jones & Davis (1965) have pointed out, the central assumption underlying the attribution of intent is that the person is viewed as confronted with multiple response alternatives, of which he or she deliberately chooses a particular one. If another person’s apparently deliberate choice of a response benefits or harms the individual, one should expect a reaction to this response that is very different from that which would occur had the action been perceived as controlled by other forces. The difference in reaction is indeed quite dramatic. Whereas receiving benefits from a person who is perceived as acting freely may prompt the inclination to reciprocate the benefaction, being benefited by a person who is apparently
Hostility or aggression is likely to be condemned when it is ascribed to malice or negligence, but it may meet with approval when it is viewed as committed in pursuit of ultimately beneficial ends (e.g., Pepitone & Sherberg, 1957; Rule & Duker, 1973). The moral sanction of hostile and aggressive behavior, which seems to have little to do with attributional processes as such and rather appears to follow from the comparison of a particular event with an established social norm or precept, has only recently been stressed as an important factor in the control of hostility and aggression (cf. Rule & Nesdale, 1976b). The influence of moral sanctions on hostility and aggression is apparently twofold. First, the perceived goodness of some hostile or aggressive measures removes the need for the inhibition of these characteristically disapproved actions, setting the individual free to attack and punish others. The weakening of inhibitions then is seen to generalize to other hostile and aggressive actions that have not been specifically sanctioned. Hostility and aggression, in general, are thus promoted through disinhibition. Second, the declaration of the goodness of hostile or aggressive actions can follow their performance. As the individual succeeds in considering his or her hostile or aggressive activities as not only called for but ‘the right thing to do’ (possibly in an effort to reduce postbehavioral conflict or ‘guilt’), the individual post facto legitimizes his or her own coercive and punitive actions. Any suspicion of the objectionable, transgressive nature of the behavior is removed. The practice of sanctioning hostility and aggression should again further disinhibition generally and thereby promote future hostile and aggressive behavior.

Recent findings concerning the moral evaluation of hostility and aggression are suggestive of such a mechanism (cf. Rule & Nesdale, 1976b). It has been observed, for example, that merely witnessing legitimate or justified aggression, as compared to seeing the same action presented as somewhat objectionable, can enhance unrelated retaliatory activities (e.g., Berkowitz, Corwin & Hieronimus, 1963; Hoyt, 1970; Meyer, 1972b). Presumably, the subjects’ own inhibitions were temporarily relaxed when they saw the violent actions of others depicted as legitimate. It has also been shown that the infliction of an aversive treatment, when morally approved of by the person witnessing it, is not merely accepted as right but tends to generate mirthful reactions in the witness (cf. Zillmann & Bryant, 1975; Zillmann & Cantor, 1976a, 1977). The available research evidence, then, suggests that moral considerations are an important, integral part of hostility and aggression – a part that can no longer be ignored.

Zillmann now systematizes and further elaborates the various elements of cognitive guidance discussed thus far. He begins with the analysis of the discriminations essential to the understanding of hostility and aggression and then turns to the analysis of motivational and dispositional elements.

Discrimination at the most basic level concerns the identification of the target for hostile or aggressive acts. As the individual is annoyed or attacked by a person, he or she obviously must perceive and commit to memory the distinguishing features of the annoyer or attacker in order to recognize him or her at a later time under different environmental circumstances. This recognition may serve the avoidance of that person, but more importantly here, it can
guide any retaliatory or punitive actions against the appropriate target. It may seem unnecessary even to mention this basic human skill for individual recognition. It should be recognized, however, that the fact of such recognition is given little attention in models of displaced and impulsive aggression. In these models, aggression is viewed as readily evoked by a person who resembles the appropriate target. The emphasis on the identification of the appropriate target denies such stimulus generalization. Based on the identification of the appropriate target (i.e., an individual or a particular group), cognitive guidance is seen to prevent hostile or aggressive activities from being directed against inappropriate targets – no matter how strong the physical resemblance may be.

It is acknowledged, however, that an individual’s identity may be incidental to his or her target properties. For example, a person may resent all members of the Ku Klux Klan and potentially treat them in a hostile or aggressive manner. In the confrontation with one particular member, this person may well behave aggressively without having been directly provoked. Such behavior could be viewed as resulting from stimulus generalization (i.e., as mediated by attire and similar cues). It could also be attributed to semantic generalization (i.e., as mediated by the labels and symbols involved). In terms of the identification of target characteristics, such behavior is readily explained as the result of attributions. For example: Regardless of the particular member’s present behavior, his identification as a KKK member – mediated by salient cues or linguistically – leads to the attribution of specific beliefs and behavioral dispositions to that member. This attribution is based on the identification of target properties, and to the extent that a person is motivated to treat all people associated with such properties in a punitive fashion, hostile or aggressive behavior may be expected. It is thus not necessary to assume that this behavior is mechanically elicited by some form of generalization.

Further discriminations concern the identification of transgressions, the extent to which norms or precepts are violated, and the extent to which violating the norms or precepts in question is socially disapproved. The necessary assumptions are: (a) that the individual recognizes prevailing norms of socially sanctioned behavior and comprehends precepts (i.e., an endorsed ‘ought’ system); (b) that he or she matches specific activities against a relevant norm or precept and perceives the magnitude of any discrepancies; and (c) that he or she recognizes the social consequences for the failure to adhere to norms or precepts and assesses the significance of particular violations in these terms.

The attribution of intent is crucial in the perception of transgressions, since the very concept of transgression is based on the assumption of free will. Obviously, a person who does not deliberately choose a certain socially condemned course of action, but who is coerced into such behavior, should not be accused – at least not fully – of having committed a transgression. This is to say that with the exception of children at the level of expiatory retribution and below (cf. Piaget, 1932), the inference or attribution of intent is a necessary condition in the perception of hostile and aggressive transgressions.

The judgment of transgressions and their magnitude is certainly subject to distortion. It has been found that aggression committed by a physically attractive person, for example, is considered less wrong and deserving of less punishment than that committed by an unattractive person (e.g., Dion, 1972; Nesdale, Rule & McAra, 1975). Similarly, transgressions committed by personally appealing persons were judged as less objectionable and as less demanding of punitive measures than those committed by unappealing persons (e.g., Landy & Aronson, 1969; Nesdale & Rule, 1974; Zillmann, 1972a). Such distortions do not affect the subjective validity of the perception of transgressions, however, and it is of course this subjective validity that is crucial in the cognitive mediation of hostile and aggressive behavior.
The recognition of hostile or aggressive transgressions has apparent motivational consequences. When such transgressions are directed against the individual – that is, when the individual perceives the self being subjected to an unwarranted, deliberately inflicted aversive treatment – he or she not only seeks to terminate the aversive stimulation but is likely to engage in efforts to reciprocate by inflicting an aversive treatment of similar intensity upon his or her annoyer. It is generally considered a truism that the perceived magnitude of a transgression determined the magnitude of compensatory punitive measures (cf. Gouldner, 1960). This relationship has become an integral part of the theory of distributive justice (Homans, 1961) and equity theory (cf. Adams, 1965; Leventhal, 1976; Leventhal & Anderson, 1970; Walster, Berscheid & Walster, 1976). Generally consistent with such approaches to justice, it is tentatively proposed: (a) that the transgressive infliction of aversion upon an individual motivates him or her to apply compensatory aversive treatment to the transgressor; and (b) that the magnitude of the compensatory treatment the individual seeks to inflict is, in general proportional to that of the transgressive treatment suffered.

In this proposal, the motivation to retaliate against persons who commit hostile or aggressive transgressions is expressed in moral terms. Apparently, if the issue were merely to ward off a annoyer or to terminate annoyance, there would be no need to stipulate any particular quantitative relationship between provocation and retaliation (or more generally speaking, between transgression and punishment).

The individual in a state of acute annoyance would simply continue to engage in counterresponses, hostile and aggressive measures included, until the annoying stimulation was terminated. Whether the aversion inflicted upon the annoyer was below, equal to, or above the level of aversion suffered would be of little moment. A person who managed to ward off a severe annoyance without doing much harm to the annoyer would be satisfied. The common observation that people are not content with such a situation but are willing to subject themselves to considerable torment to ‘get even with’ their annoyer marks a characteristic feature of hostility and aggression that, for better or worse, distinguishes man from other species.

Retaliation and punishment are essentially moral concepts. The motivation to retaliate and to punish consequently appears to be primarily ‘cognitive’ (cf. Weiner, 1972, 1974b). However, as we will see, the moral system of retaliation and punishment tends to be strictly enforced in societies (cf. LeVine & Campbell, 1972), and it thus comes under reinforcement and aversive control. Also, it should be recognized that independent of moral considerations, retaliation can often be accounted for as a preventive measure: A person may feel that through prompt retaliation, he or she can reduce the likelihood of future transgressions being directed against him or her. At the level of international conflict, this kind of thinking seems to determine much military policy and strategy. Nonetheless, the fact remains that retaliation is frequently employed to punish a transgressor regardless of future threats this transgressor could pose. The fact that recompense, retribution, retaliation, revenge, vengeance, and so on are moral concepts is further documented by recent findings concerning affective reactions to the observation of transgressions and punishment. It has been shown that the enjoyment occasioned by seeing a transgressor punished is a function of the moral sanction of the punishment (Zillmann & Bryant, 1975). Children at the developmental level of equitable retribution (7- and 8-year olds) enjoyed dramatic events only when the transgression involved was ‘fairly’ – that is, equitably – punished. The enjoyment, vanished when the events entailed either under- or over-retaliation. It has also been observed that the punishment of transgressive behavior is enjoyed even when it does not come through the retaliatory action of the tormented person but occurs by accident (Zillmann & Cantor, 1977). It apparently does not matter how the punishing action comes about. What matters is that it does come about and in the appropriate magnitude. Witnessing a transgression go unpunished or inadequately
punished or overpunished, then, seems to leave one’s sense of justice disturbed – as Heider (1958) suggested. The moral disturbance appears also to apply to the individual’s own transgressions. Feelings of guilt can be viewed as the result of the individual’s recognition that he or she has violated norms or precepts and has avoided the punishment deserved. Conceivably, feelings of guilt occasionally may become aversive enough to motivate the individual to seek out and accept punishment or even to administer it to him- or herself (cf. Bandura, 1973a). The individual can avoid such self-punishment, however, as Bandura has suggested, by distorting the perception of his or her own acts so as to make them appear legitimate.

Following social-comparison-theory and its application by Lerner, Miller & Holmes (1976), it is proposed that individuals develop a sense of deserving on the basis of comparing themselves with others who are similar to them. They consider themselves entitled to the rewards that others like themselves obtain under the same circumstances. To receive more but particularly to receive less is perceived as unjust and unfair. Analogously, individuals consider themselves to be deserving of the punishment that others like themselves suffer under the same circumstances. Such a model can account for moral judgments that appear incomprehensible in terms of more formal systems of ethics. It can explain, for example, why the pardon of a president who committed transgressions can be sanctioned by many people. Presidents are sufficiently dissimilar from other people, and any precedent of immunity from prosecution fosters the expectation that criminal presidents are entitled to pardons. Similarly, the social-comparison reasoning can explain why in some cultures, a wife’s sexual infidelity will cause her husband to retaliate against the presumed real transgressor, her lover, possibly by killing him; whereas in other cultures the husband may merely display his anger about his wife’s behavior. In both cases, the husband’s view of just, ‘equitable’ punishment reflects what others (his cultural peers, in this case) probably would have done in the same situation. In juvenile gangs, a disparaging comment – which might be considered a harmless, funny put-down in student circles – can start warfare that may result in the deaths of the offenders – all in the name of ‘just’ retaliation.

The discussed restraint in viewing punitive and retaliatory action as legitimate apparently does not necessarily prevail when the individual’s capacity for ethical reasoning is entrusted with the moral judgment of hostility and aggression. Potentially, extreme measures that are unlikely ever to find general moral approval can be legitimized by some individuals who either act alone or with small groups of disciples. Atrocities and heinous crimes are known to have been justified on the basis of obscure and bizarre moral convictions (e.g., the well-known Tate-LaBianca murders by the Manson group). Such deviant hostile and aggressive acts (i.e., deviant in the purely descriptive sense of being different from more customary behavior), which are of course incompatible with a social-comparison model of the legitimization of hostility and aggression, attest to the existence of personal ethical rationales and to their possible consequences for behavior.

Summary:

1. The transgressive infliction of aversion upon an individual motivates this individual to inflict compensatory aversive treatments upon the transgressor.

2. The magnitude of the compensatory aversive treatment the individual seeks to inflict is determined by personal or social precept and/or by social comparison.

3. The magnitude of the compensatory aversive treatment tends to be proportional to that of the transgressive aversive treatment. Disproportional compensation is possible, however. It
will occur when prescribed by binding precepts, when dictated by social comparison, or when demanded by both systems of moral judgment.

4. The transgressive infliction of aversion upon an individual motivates this individual to sanction the infliction of compensatory aversive treatments upon the transgressor by others.

5. The magnitude of the compensatory aversive treatment the individual is motivated to sanction is determined by personal or social precept and/or by social comparison as specified under item 3.

6. The witnessed transgressive infliction of aversion upon others motivates the individual to sanction the infliction of compensatory aversive treatments upon the transgressor by others.

7. The magnitude of the sanctioned compensatory treatment is as specified under item 5.

Anticipations and their behavioral implications

A. It is proposed: (1) that the individual recognizes the contingencies of reinforcement and punishment that potentially apply to his or her own behavior; (2) that he or she consequently anticipates gratification or aversion to result from particular conditions; and (3) that he or she acts so as to increase gratification and/or decrease aversion. Processes of cognitive guidance are thus viewed as motivating the individual to commit coercive acts, if necessary, in order to obtain incentives or prevent annoyances. The former case constitutes the basis for incentive-motivated hostility and aggression. It provides the initial impulse to force the compliance of others who are perceived as thwarting the attainment of circumstances expected to generate gratification. The latter case constitutes a special condition for annoyance-motivated hostility and aggression. Annoyance motivation, strictly speaking, presupposes a state of acute annoyance. Such a state seems absent when annoyance is only anticipated. However, the anticipation of annoyance might be conceived of as a state of annoyance itself.

B. It is proposed: (1) that the individual recognizes the contingencies between hostile or aggressive behaviors and the compliance and submission of others; (2) that he or she correspondingly anticipates his or her own hostile or aggressive actions to affect the behavior of others similarly; and (3) that he or she is motivated to perform such actions only if they hold promise of coercive success.

C. It is proposed: (1) that the individual perceives him- or herself as generally possessing a particular degree of ability or inability to perform hostile and aggressive actions to affect the behavior of others; (2) that he or she correspondingly anticipates his or her hostile and aggressive actions to be effective or ineffective; and (3) that he or she is motivated to perform such actions only if they hold promise of coercive success.

D. It is also proposed: (1) that the individual perceives his or her hostile and aggressive capabilities and deficiencies to vary as a function of temporary bodily states (e.g., alertness vs. fatigue or health vs. illness); and (2) that his perception has the consequences stipulated in proposition C under (2) and (3).
E. It is proposed: (1) that the individual, based on his or her observation of and experience with the circumstances in question, appraises the strength of the forces that would oppose his or her hostile or aggressive actions; and (2) that he or she will perform such actions only if the anticipated effort to overcome these opposing forces constitutes an aversion whose magnitude is perceived to be below that of the gratifications to be potentially gained or the aversions to be potentially removed by the actions.

F. It is further proposed: (1) that the individual appraises the likelihood and severity of punitive or retaliatory measures for his or her hostile or aggressive actions; and (2) that he or she will perform such actions only if the anticipated effort to avert or undergo the punitive or retaliatory measures constitutes an aversion whose magnitude is perceived to be below that of the gratifications to be potentially gained or the aversions to be potentially removed by the actions.

G. Finally, it is proposed: (1) that the individual recognizes the contingencies between his or her hostile or aggressive actions and their social approval or condemnation; (2) that he or she correspondingly anticipates such actions to produce gratification or aversion; and (3) that he or she acts so as to increase future gratification and/or decrease future aversion.

This last proposition relates back to the moral judgment of hostility and aggression. It can, in fact, be viewed as providing the motivational basis of social-comparison processes concerning such judgments. Consistent with this proposal, it may be argued that it is the anticipation of social approval or social reproach, and ultimately the anticipation of reward or punishment, respectively, that ‘forces’ the individuals to make social comparisons: Because in doing what others would do under the circumstances, the individual can maximize the approval and minimize the reproach of his or her potential judges. Moral assessments are thus placed under reinforcement and aversive control. Hostile and aggressive actions are considered morally justified (i.e., the right thing to do) when they are expected to produce social praise; conversely, they are considered morally unjustified (i.e., the wrong thing to do) when they are expected to prompt social condemnation.

In this view, ‘inner guidance’ reduces to primarily attribution-based anticipations that enable the individual to pursue the maximization of gratification and the minimization of aversion.

**Cognitive guidance and level of excitation**

It is proposed that the cognitive faculties involved in the cognitive guidance of hostility and aggression are critically affected by the organism’s state of physiological excitation. More specifically, it is posited that higher-order cognitive processes, such as anticipatory projections, presuppose favorable excitatory conditions. At very low levels of excitation (e.g., drowsiness), the execution of such processes is impaired. At very high levels of excitation (e.g., extreme fear, rage), it is likewise impeded. The performance of higher-order cognitive processes is thus restricted to a relatively narrow range of variation in physiological excitation. As a consequence, the cognitive control of hostile and aggressive behavior is restricted to optimal levels of excitation.

More specifically, it is proposed that behavior control through learning extends further into very low and very high levels of physiological excitation than does behavior control through cognitive guidance.

The foregoing propositions relate to two widely accepted generalizations of empirical data: (a) the inverted-U relationship between arousal and behavioral efficiency (e.g., Freeman, 1940; Hebb, 1955, 1966; Malmo, 1959); and (b) Easterbrook’s (1959) cue-utilization model.
In the framework of activation theory, it was suggested that the organism’s capacity to react adaptively to specific stimulus conditions successively increases with increments in arousal until arousal reaches an optimal point, but that after this point is reached, further increments in arousal cause the successive deterioration of adaptive reactions (cf. Hebb, 1966).

The following propositions are made:

1. The curvilinear relationship between level of excitation and cognitive competence determines a corresponding curvilinear relationship between level of excitation and behavior control through cognitive mediation.

2. There is an analogous correspondence between the curvilinearity of perceptual and motor competence (as a function of level of excitation) and that of behavior control through learning.

3. The range of excitation in which behavior control through cognitive mediation operates is narrower than that for behavior control through learning.

4. There is an intermediate, optimal range of excitation in which behavior control through cognitive mediation dominates behavior control through learning.

**Zillmann’s (1979) Theory of Incentive-Motivated Hostility and Aggression**

A. Incentive motivated hostility and aggression are motivated primarily by the anticipation of gratification.

B. The individual who is motivated to obtain incentives and who recognizes that these incentives are accessible only through coercion will engage in hostile or aggressive actions directed at the usurpation or attainment of the incentives only if he or she is confident of being successful in his or her actions.

C. In assessing the likelihood of success in the usurpation or attainment of incentives, the individual takes into account his or her stable and transitory hostile and aggressive abilities.

D. Likewise, he or she takes into consideration the forces likely to obstruct his or her efforts and the possible measures of retribution.

E. Finally, the individual considers the likelihood of social approval and social reproach.

Propositions A through E, expressed strictly in terms of gratifications and aversions, may be summarized as follows:

Incentive-motivated hostility and aggression will be enacted: (1) if gratifications are apparent; (2) if their successful attainment through coercive action is considered highly likely; and (3) if it seems likely that the coercive actions will be performed at a comparatively low cost in aversion.

Additional propositions:
A. In the recognition of contingencies of reinforcement and punishment related to hostility and aggression – namely coercive contingencies, stable and transitory abilities and inabilities of the self, opposing situational forces, punitive and retaliatory potentialities of others, and contingencies of social approval and reproach – the individual distinguishes between at least four levels of apparent experiential validity: (1) his or her own primary experience, (2) the immediately witnessed experiences of others, (3) experiences of others stated by others to have actually occurred, and (4) experiences of others presented by others with the understanding that these experiences have been exaggerated, simplified, distorted, or entirely invented.

B. Experiences at level (1) exert the strongest influence on anticipations; the strength of the influence becomes successively less at the succeeding levels with the experiences at level (4) exerting the weakest influence on anticipations.

C. Following proposition B, anticipations are primarily formed on the basis of the highest-order experience available.

D. Following further from proposition B, if there is inconsistent information at various levels of experience, the individual forms an anticipation on the basis of the available experience of the highest order.

In these propositions, then, more immediate experiences are posited to serve as correctives for less immediate experiences. As a consequence, information about hostility and aggression conveyed through fiction and hearsay should be of little consequence for the formation of behavior-guiding anticipations when it is contradicted by more direct experiences. The ease with which well-adjusted individuals manage to disregard the behavioral contingencies presented in fiction as atypical and unrepresentative is attested to by the fact that although so much entertainment fare in Western cultures depicts the attainment, at least temporarily, of almost every imaginable incentive by hostile or aggressive means, the depicted transgressions are not imitated on a massive scale. Most people apparently can dismiss the depicted contingencies as ‘fictional’ (i.e., as having little or no validity) and can thus reduce or eliminate any consequences such presentations may have for the formation of anticipations. The relationship between incentive-motivated hostility and aggression and the risk of punitive compensation is nicely illustrated by the frequency of hijackings of airplanes in the late sixties and early seventies (cf. Bandura, 1973a). Detailed news reports of successful hijackings not only outlined an innovative course of coercive action for less inventive potential transgressors but also conveyed information that must have created the following anticipations in those who contemplated criminal coercion in order to get rich quickly: (1) the incentive of enormous magnitude; (2) aversive cost, that is, the effort involved in the execution of the transgression, is minimal; (3) the action is quite safe; and (4) punitive repercussions can be readily avoided. This, of course, is the ‘golden formula’ for incentive-motivated hostility and aggression: extremely high incentive at extremely low cost. Moreover, this recipe for a crime was apparently trustworthy; that is, it came out of the news, not out of fiction. It should not be surprising, then, to find that these newscasts triggered an ‘epidemic’ of hijackings. It also is not surprising that the rate of hijackings dropped to near-zero levels after the introduction of changes in airport security that caused the failure of hijacking attempts. The news reports of these failures must be assumed to have changed the anticipations: Although the potential incentive was still there, the subjective probability of a successful hijacking had become low, and punitive repercussions were likely.
Zillmann’s (1979) Theory of Annoyance-Motivated Hostility and Aggression

A. Intermediate Levels of Excitation

1. At intermediate levels of excitation, annoyance-motivated hostility and aggression are motivated primarily by the anticipation of the infliction of an annoyance or by the infliction of a moderate annoyance.

2. The individual who is motivated to avoid or terminate an aversion and who recognizes that this objective is attainable only through coercion will engage in hostile or aggressive actions directed at the avoidance or termination of the aversion only if he or she is confident of being successful in that action.

3. In assessing the likelihood of success in avoiding or terminating an aversion, the individual takes into account his or her stable and transitory hostile and aggressive abilities.

4. Likewise, the individual takes into consideration the forces likely to obstruct his or her efforts and the possible measures of retribution.

5. The individual furthermore considers the likelihood of social approval and social reproach.

The motivational properties of annoyance-motivated hostile and aggressive behavior are frequently presented as serving the maintenance of the self-concept. Feshbach (1970), for example, assumed that unwarrented mistreatment that annoys a person also inflicts a loss of self-esteem. He proposed that the individual is motivated to retaliate mainly to restore his or her self-esteem. Similarly, Bandura (1973a, 1973b) assumed that a person judges the merits of his or her own actions and correspondingly ‘rewards’ or ‘punishes’ the self. He suggested that when a situation mandates retaliation, aggression may be motivated by a desire to avoid punishing self-contempt. Both views depict the individual as internally driven to hostile or aggressive action, seemingly independent of social concerns. It appears, however, that such an impression is somewhat misleading. The individual may be predominantly concerned with gaining the esteem of others and with avoiding their contempt. In fact, this social concern may be held responsible for the development of stable retaliatory response tendencies. Once these tendencies are established, the individual may well believe them to be entirely self-determined. Regardless of such beliefs, however, the maintenance of a favorable self-concept must be viewed as socially motivated, in principle. Through hostile and aggressive action that seems to serve a favorable ‘self-concept’, the individual ultimately furthers his or her social appeal. Potentially, the individual attains social approval and avoids social reproach as long as the behavior performed, which he or she may well believe to follow personal standards, does not violate the prevailing norms of social conduct. Personal standards tend to reflect the social norms of the groups the individual is a member of or, more importantly, aspires to be a member of; and to the extent that personal and social standards are redundant, hostile and aggressive behavior can be predicted on the basis of the anticipation of social approval and reproach. Concepts of self-esteem, self-reward, and self-punishment can thus be expressed in social terms.

At intermediate levels of excitation, annoyance-motivated behavior seems generally to be biased toward hostility. In other words, it appears unlikely that the individual who seeks to avoid discomfort or who wants to put an end to a moderate annoyance is inclined to fight physically. This is because: (a) the individual is unprepared excitationally to exert a large
amount of energy quickly; and (b) maybe more importantly, he or she must expect social reproach for excessive punitive actions. With the exception of atypical codes of conduct in special groups (such as in the juvenile gangs discussed earlier, where a demeaning word or gesture calls for the death of the offender), the somewhat annoyed individual has to employ hostile rather than aggressive means as a deterrent or punishment. A person cannot simply lash out as he or she pleases. A young man, for example, who has been put down by an acquaintance in the presence of close friends cannot punch his annoyer in the nose. He may have to inhibit any physical form of retaliation because it would meet with the vehement disapproval of his friends. A quick comeback, in contrast, would not only be approved of but likely applauded by them. If the annoyer is a superior wit, the retaliator may have to resort to a blunt insult or to the less risky course of spreading malicious gossip at a later time. But unless the exchange of hostility escalates and the annoyance becomes severe (at which point, the individual should become highly aroused), retaliation cannot take the form of aggression without becoming transgressive and, potentially, a source of further annoyance. Generally speaking, the unwritten ‘laws’ of conduct in human society favor nonviolent means of conflict resolution: They favor hostility over aggression.

B. High Levels of Excitation

At high levels of excitation, annoyance-motivated hostility and aggression are directed primarily at the immediate reduction and termination of the acute motivating annoyance.

2. The capacity to anticipate gratification and aversion, success and failure, and cost is diminished. As a consequence, response guidance through the anticipation of the consequences of a course of hostile or aggressive action is impaired. At extremely high levels of excitation, the individual disregards the nonimmediate consequences of his or her actions altogether.

3. The individual displays mainly learned reactions associated with great habit strength. At extremely high levels of excitation, cognitive mediation is minimal and hostile and aggressive responses are impulsive.

4. Motor responses are vigorous. Their vigor is roughly proportional to the level of excitation prevailing at the time.

Regarding response guidance, the hostile and aggressive behavior of the severely annoyed and highly aroused person is viewed as drastically different from that motivated by incentives or moderate annoyances. The individual behaves as if the high level of excitation being experienced – a level that, to be sure, he or she perceives as noxious – were ‘unbearable’. Apparently, the individual behaves so as to rid him- or herself of this noxious arousal with little regard for the consequences of that behavior. In this disregard for the prevailing contingencies of gratification and aversion, for the likelihood of success and failure, and for the cost in effort, the extremely aroused individual readily violates the concept of ‘rational man’. In ‘following his or her impulses’, the person ‘gets carried away’ and may inflict harm or injury to a degree that goes far beyond what equity considerations would prescribe. His or her behavior is likely to prompt social disapproval and even reprisal from the victim or the victim’s associates. The highly aroused individual seems oblivious to the odds of being effective with hostile and aggressive actions. He or she fights, regardless of what the cost of that action may be, and he or she may make an all-out effort even in the face of certain defeat. It seems that extremely annoyed and angry persons ‘don’t give a damn’ about what happens
to them after their attack. They behave as if they ‘couldn’t care less’ about the mess they might get themselves into. Outside intervention is usually refused, especially when it entails appeals to reason. As these highly aroused persons are being ‘unreasonable’, they claim to know exactly what they are doing and consider their course of action reasonable. Characteristically, however, those who have ‘blown their top’ come to regret their behavior (‘I must have been out of my mind’) as soon as they calm down to intermediate levels of excitation and again adopt more normative standards of reasonableness. In terms of our model of response guidance, the individual regains anticipatory faculties as his or her excitation drops from very high to intermediate levels and recognizes the violation of ‘rational’ objectives by his or her impulsive hostile and aggressive actions. The objectives that were violated are, of course, the long-range (i.e., nonimmediate) maximization of gratification and minimization of aversion.

The apparent transitory cognitive incapacitation seems invariably to accompany emotional outbursts. Characteristically, it causes the loss of otherwise effective inhibitions and thereby produces reckless behavior. This incapacitation can be viewed as a lack of concern that is brought about at high levels of excitation. It could be argued that the individual may well comprehend the consequences of his or her actions but evaluates them differently. It is at least conceivable that at high levels of excitation, the individual perceives the likelihood of success as higher and the cost attached as lower, if not as trivial. The aroused person would thus suffer from an ‘illusion of power’, which would account for his or her recklessness.

Hostile and aggressive outbursts have occasionally been viewed as manifestations of mental illness. The temporarily incapacitated individual seems to display the behavior of persons whose incapacitation is more permanent. Cameron (1947), for example, compared emotional outbursts to hysterical seizures. He noted that the shared behavioral features of the two phenomena were the irresistible striving toward the completion of an immediate objective, the absence of inhibitions, the failure to respond to attempts by others to intervene, and recklessness. If the loss of anticipatory skills is critically involved in such ‘seizures’, one should expect persons who have temporarily or permanently lost these skills, through intoxication or physical impairment, to exhibit frequent hostile and aggressive outbursts on minimal provocation. In general, evidence from correlational studies supports this interpretation. Whereas mental illness in general has not been found to be related to violent behavior, illnesses in which the loss of anticipatory skills is combined with unimpaired physical capabilities have been associated with violence (cf. Gulevich & Bourne, 1970). Similarly, although no relationship has been found between drugs in general and hostile and aggressive behavior, toxicants that cloud the anticipation of the consequences of the individual’s actions without unduly hampering the motor skills have been linked to increased impulsive violence (cf. Tinklenberg & Stillman, 1970). In this connection, alcoholic intoxication has been noted for its ‘inhibition-releasing and judgment-altering effects’ (Gulevich & Bourne, 1970). Its facilitating effect on violent behavior is not in doubt (e.g., Guze et al., 1962; Wolfgang & Strohm, 1956). Much violence, criminal homicide in particular, is committed in a state of alcoholic intoxication. But granted that violent reactions may greatly resemble certain manifestations of mental illness, the characterization of hostile and aggressive outbursts as a form of mental illness is a value judgment that adds nothing to our understanding of these outbursts. Normal or abnormal, emotional outbursts seem to occur to some extent in everyone’s life. A statistical definition of normalcy would thus make them ‘normal’. If a clinical definition that uses rationality as a criterion for normalcy is preferred, impulsive violent outbursts would indeed appear to be ‘abnormal’. Such a classification is pragmatically inadvisable because it declares most people mentally ill. It is also inadvisable because it employs an arbitrary conception of rationality that can readily be challenged.
It seems that the individual who experiences an extremely high level of noxious arousal can in most instances improve his or her situation through violent action. In fact, such violent action may often be the only kind of action capable of accomplishing the immediate behavioral objective of stopping an emergency condition: the acute annoyance. If violent action fails to accomplish this goal, the individual’s efforts soon produce a state of exhaustion. Odd as it may seem, this state of exhaustion can be viewed as another resolution of the emergency situation. For physiological reasons (cf. Cannon, 1929; Freeman, 1948; Grossman, 1967), the individual is unable to maintain an extremely high level of sympathetic excitation for long periods of time. Arousal must return to more moderate levels, and the vigorous, energy-consuming action of violent outbursts can be expected to accelerate the normalization. Consequently, whereas the self-controlled person would continue to suffer from an acute annoyance for a considerable period of time, the individual who erupts in violent action will much sooner reach a point at which noxious arousal has diminished and has become ‘bearable’. In addition, there is reason to believe (cf. Gellhorn, 1970) that the strenuous action associated with outbursts occasions muscular fatigue, which the individual experiences as relaxation. In brief, then, even if violent outbursts fail to terminate an annoyance by stopping the annoyer’s actions, they can improve the individual’s immediate condition. Violent outbursts can thus be viewed as serving a rational objective, because they alleviate an emergency condition of the organism.

The discussed reduction of annoyance through violent outbursts is expected primarily as the result of vigorous motor discharge. This discharge is commonly used as the defining characteristic of emotional outbursts, and it is thus by definition associated with violent reactions. More specifically, however, the discussed reduction of annoyance is viewed as resulting from motor discharge that is continued to the point of fatigue and exhaustion. Clearly, motor discharge is initially invigorating and arousing, and as long as this condition prevails, a reduction of annoyance should not be expected. On the contrary, invigorating motor activities must be expected to facilitate annoyance and, along with it, hostile and aggressive behavior. This expectation is amply supported by research evidence (e.g., Hornberger, 1959; Zillmann & Bryant, 1974; Zillmann, Katcher & Milavsky, 1972). Counter to the widespread belief that all vigorous motor activities, and especially those that accompany the expression of annoyance and displaced hostile acts, have ‘cathartic value’, such activities intensify feelings of annoyance, anger, and outrage. Only if they are performed to the point of exhaustion should one expect them to dissipate intense annoyances. Strictly speaking, it is the state of exhaustion that is considered to resolve the behavioral emergency created by the extreme annoyance. The instrumental value of a violent outburst that fails to stop the annoyer’s action or otherwise terminate the annoyance is to be seen, then, in the fact that it quickly and effectively creates a state of exhaustion.

The characterization of violent outbursts as ‘nonrational behavior’ should thus be treated with caution. Such outbursts do serve the individual’s self-interest, and in the sense that they help resolve behavioral emergencies, they enable him or her to cope with intense annoyances even when they seem ineffective or ‘counterproductive’. The view that the arousing properties of severe annoyances constitute a behavioral emergency that can be resolved through vigorous hostile or aggressive action derives, of course, from Cannon’s (1929) well-known proposal regarding the emergency nature of emotional behavior generally. In accordance with Cannon’s proposal, the excitatory reaction occasioned by a severe annoyance is conceived of primarily as heightened activity of the sympathetic nervous system that prepares the organism for the temporary engagement in vigorous motor activities, such as those needed for fight or flight. Both fight and flight are adaptive reactions to annoyance. Potentially, either reaction can resolve a behavioral emergency. In the evolution of man, the short-term potentiation of fight and flight reactions had obvious survival value.
Only in complex, modern societies has this potentiation become largely maladaptive – and hence branded as ‘nonrational’. In most interactive situations, the severely annoyed individual can neither throw punches nor run away. Yet he or she is excitationally prepared for such action.

**C. Low Levels of Excitation**

1. At low levels of excitation, annoyance-motivated hostility and aggression serve primarily the maintenance of a resting state.

2. As at high levels of excitation, anticipation skills are diminished, and cognitive response guidance is impaired.

3. The individual displays mainly learned reactions.

4. Motor responses are nonvigorous.

**Zillmann’s (1979) Three-Factor Theory of Hostility and Aggression**

Contrary to the impression created by violence-ridden fiction (cf. Donner, 1976) and television drama in particular (cf. Gerbner & Gross, 1976), aggressive behavior is not primarily motivated by the pursuit of incentives. Although a look at the ‘Uniform Crime Reports for the United States’ (e.g., 1975) of any recent year leaves no doubt about the abundance of incentive-motivated transgressions in society, it also reveals clearly that these incentive-motivated criminal actions are largely nonviolent. Crimes against property (i.e., larceny, theft, burglary, robbery), which are incentive motivated by definition, can be seen as hostile activities that only in the exception entail aggressive behavior. The analysis of violent crimes, especially criminal homicide, makes it abundantly clear that aggressive actions that inflict severe consequences upon the victim are primarily motivated by annoyance (cf. Mulvihill, Tumin & Curtis, 1969).

The U.S. Uniform Crime Reports, along with the statistics on violent crime in other nations (e.g., Criminal Statistics: England and Wales, 1976; European Committee on Crime Problems, 1974; Statistics Canada, 1973), show murder to be predominantly an annoyance-motivated crime. Roughly speaking, only one-fifth of all murders are linked to incentive-motivated crimes. If those murders suspected to be at least in part motivated by incentives are included, the ratio rises only to one-fourth. This means that at least three-fourths of all murders committed are primarily motivated by annoyance. With great consistency across time (i.e., years) and regions (i.e., sections of the United States), these annoyance-motivated homicides are the result of acute conflict, especially between persons who know each other well (cf. Goode, 1969). Arguments within the family (mainly between spouses but also between parents and children) and lovers’ quarrels make up an impressive portion of murders: roughly one-third. Additionally, murder deriving from conflict between people who had been acquainted with each other for some time is more characteristic then murder resulting from conflict between strangers. The figures that show that intense arguing can readily escalate into murder are staggering: More than one-third of criminal homicide is apparently thus motivated by sheer annoyance.

Wolfgang’s (1958) well-known, meticulous analysis of motives in criminal homicide corroborates the pattern projected by the official crime statistics. The killing of close friends was found to be most frequent. Similarly frequent were killings within the family. The killing
of an acquaintance is markedly less characteristic and even less so that of a stranger. The killing of a personal enemy is obtrusively atypical. In this context, Wolfgang’s data regarding the circumstances that apparently led to homicide are particularly revealing. By far the most frequent antecedent of a killing (more than one-third of all instances) was the annoying “altercation of relatively trivial origin: insult, curse, jostling, etc.”. Domestic quarrels, jealousy, and bickering over money were rather characteristic. Interestingly, revenge proved to be a relatively infrequent antecedent condition of homicide (about 5% of all instances). Homicide connected with incentive-motivated hostile activities was again found to amount to less than one-fourth of all killings. The analysis of the locations in which killings occur makes it further clear that the place of criminal homicide is not the proverbial dark alley but the home and its modern extension, the car. Killings were reported to occur most frequently in and around cars, in the bedroom, in the living room, and in the kitchen.

The fact that homicide is predominantly annoyance motivated is also attested to by Wolfgang’s analysis of sentencing. The greatest number of homicides (more than one-third of all instances) were ruled to constitute voluntary manslaughter, a crime defined as “the unlawful killing of another in a sudden heat of anger, without premeditation, malice or depravity of heart” (Wolfgang, 1958; italics added). Similarly frequent (nearly one-third of all instances) was the ruling of murder in the second degree, which entails the felonious and malicious killing of a human being without the specific intent to take life. The willful, deliberate, and premeditated killing of a human being, murder in the first degree, is far less characteristic than usually presumed. Only about one-fifth of all homicides were ruled first-degree murder. Annoyance- and incentive-motivated murders are confounded in this figure, and it can only be speculated that a good portion of the total constitutes behavior motivated by annoyance.

The dominance of annoyance-motivated aggression is apparent not only in the data on homicide. Analyses of the criminal infliction of bodily injury show the same pattern. If anything, they show an even greater dominance of annoyance motivation.

To illustrate: Detailed recent data from Austria (cf. European Committee on Crime Problems, 1974) document that as was the case for killing, willful wounding occurs mostly in the course of a quarrel. For example, quarrel-precipitated injury proved to be about 150 times as frequent as injury inflicted in the course of armed robbery and about 200 times that associated with rape.

The phenomenon of so-called normal violence (cf. Sarles, 1976), that is, injury-inflicting action that occurs within the family or between ‘intimates’ and that is not reported or recognized as criminal behavior, gives further evidence to the pronounced dominance of annoyance motivation in aggression. Child abuse and wife beating, two domains of aggressive behavior of great public concern, are quite widespread. Although there are characteristic differences in the frequency of occurrence, both child abuse and wife beating permeate all conceivable social strata (e.g., Fontana, 1971; Gelles, 1974; Gil, 1973; Steinmetz & Straus, 1974; Straus, 1974; Zalba, 1966). The classification of the antecedent conditions of such ‘normal’ aggressive behavior makes it very clear that nearly all the battering that occurs is precipitated by acute annoyance. Gil (1973) lists, as the major type of abusive behavior, assaults that grow out of disciplinary action by caretakers who “respond in uncontrolled anger” (italics added) to the presumably annoying misconduct of a child. About three-fourths of all incidents of child abuse were attributed to the “inadequately controlled anger” of the abusive person.

The second type of abuse is also related to anger: It is the assault upon a child because of a negative affective disposition toward him or her, that is, because of general resentment and rejection (cf. Miller & Swanson, 1960). Given such a negative general disposition, abusive behavior appears to be triggered by rather trivial forms of annoying conduct that are readily
interpreted as misconduct. The same circumstances, generally speaking, prevail in wife beating (cf. Gelles, 1974). An inspection of the data regarding the criminal and quasi-criminal infliction of pain and injury, then, leaves no doubt about the fact that aggressive and violent behaviors are performed primarily to terminate annoyances and not to attain incentives. This generalization is of import, because at least within psychology, it has occasionally been suggested that aggressive behavior is almost entirely governed by incentive attainment. In particular, Buss (1961) has proposed that aggression is controlled by three principal reinforcers: money, prestige, and status. He has further suggested that through the deliberate management of these reinforcers, aggression can readily be curtailed. Moreover, Buss (1961) has argued that the concept of anger is not particularly useful in the analysis of aggression. Such a view, no matter how liberally the concept ‘incentive’ is interpreted, seems to misconstrue greatly the phenomena of aggression and violence in society. The descriptive analysis of the circumstances under which acts of aggression and violence occur urges a very different assessment: Unquestionably, injurious behavior is motivated mainly by acute annoyance and performed in order to discontinue this experience. It is usually not planned or premeditated, and presumably, it occurs most often when the individual experiences rather high levels of activity in the sympathetic nervous system. Under these circumstances, the individual rarely pursues incentives. Whether the offense is manslaughter, child abuse, or wife beating, the aggressor hardly ever gains money, prestige, or status. On the contrary, an uncontrolled aggressive outburst in the family or between close friends usually inflicts a loss of prestige and status on the aggressor, and it leaves relationships in disarray and affiliations in jeopardy (cf. Scratton, 1976). Even in the extreme case of violent juvenile gangs, aggressive action appears to be prestigious and status enhancing only if it is displayed in response to adequate provocation, that is, when it is precipitated by annoyance (cf. Klein, 1969). In short, it appears that generally speaking, aggression does not pay. Granted that killing and wounding can greatly facilitate the criminal attainment of incentives, the far more common annoyance-motivated infliction of injury has no apparent payoff – other than the likelihood of terminating a particular acute annoyance. Assaultive behavior performed on the spur of an excited moment not only strains and disrupts personal bonds but is likely to incite retaliation and punishment at some later time. The fact that in spite of all these negative consequences, destructive outbursts are as ubiquitous as they are would seem to suggest that the concepts of anger and emotional disturbance, or the concept of emotion generally, must be involved in efforts to provide an adequate explanation of such behavior. The vast majority of incidents in which an individual inflicts injury or death upon another human being simply cannot be construed as actions instrumental in the attainment of incentives. These incidents, it appears, can be more readily comprehended and explained when they are treated as ‘normal’ defensive, affective reactions of considerable intensity, and as emotional outbursts in the extreme. In fact, these incidents seem to demand an analysis in emotional terms.

The theory presented below is an application of the more inclusive three-factor theory of emotion (Zillmann, 1978) to hostility and aggression. Essentially, the three-factor approach integrates the two-factor theory of emotion (Schachter, 1984) with behavior theory (e.g., Brown, 1961; Hull, 1943, 1952; Spence, 1956). The three-factor theory of emotions, and hence of hostility and aggression when viewed as emotions, projects emotional experience and emotional behavior as the result of the interaction of three principal components of emotional state: the dispositional, the excitatory, and the experiential components.

1. The dispositional component is conceived of as a response-guiding mechanism. It is assumed that the motor aspects of behavior are unconditional or acquired through learning.
2. The excitatory component is conceived of as the response-energizing mechanism. It is assumed that excitatory reactions, like motor reactions, are either unconditional or acquired through learning.

In accordance with Cannon’s (1929) proposal of the ‘emergency’ nature of emotional behavior, the excitatory reaction associated with emotional states is conceived of as heightened activity, primarily of the sympathetic nervous system, that prepares the organism for the temporary engagement in vigorous motor activities, such as those needed for ‘fight or flight’.

3. The experiential component of emotional behavior is conceptualized as the conscious experience of either the motor or the excitatory reaction, or of both these aspects of the response to a stimulus condition.

The interaction between the dispositional and the excitatory components may be regarded as a ‘primitive heritage of man’. The basic response tendencies that are delineated by this interaction, as Cannon (1929) so persuasively argued, must have had great survival value. In the evolution of species, man included, it was obviously essential to respond to endangering circumstances with a sudden burst of energy that made effective escape or attack possible. Only in recent history, under the conditions of life in modern society, have these reactions largely lost their adaptive value.

A. The Induction of Annoyance

It is suggested that the mechanics of comparatively short-lived elevations in the level of sympathetic excitation indeed reach back to the fight-or-flight response as originally conceived by Cannon (1929). If such an energizing reaction had survival value, it did so because it aided the organism in attaining and retaining food, mate, and shelter (through fight) and in eluding discomfort and harm (through flight). Vigorous motor behavior had adaptive value, and to the extent that an arousal reaction increased the capacity for such behavior, the arousal reaction furthered the adaptive value of the motor behavior. Ideally, such an energizing mechanism should have been activated whenever the organism’s well-being was threatened or the successful attainment and control of food, mate, and shelter was placed in jeopardy. Presumably, this is the way it once worked and still works. The basis for the excitatory reaction associated with annoyance is thus seen in the threat posed by members of the same or another species, or by environmental events, to the well-being of the individual or to the commodities and conditions vital to his or her well-being. Regarding threat, life in contemporary societies may have become an extremely complex affair, but the principal conditions for annoyance have not changed. The individual is still frequently exposed to risks to personal well-being and the well-being of those entities essential to his or her welfare. He or she daily confronts a multitude of incommodious and disadvantageous social conditions and is subjected to uncounted inconveniences and discomforts. But the adaptive value of punching, shoving, kicking, and lunging and, for that matter, of running away has vanished for the most part. Such archaic coping reactions may be frequent and even effective in peer interactions during childhood and adolescence. To the adult in modern society, however, they are largely barred and thus have no instrumental value. Unless the individual is willing to employ socially disapproved or criminal actions, he or she simply cannot avoid all annoyances through physical assaults upon his or her annoyers -or by running away. This situation creates a dilemma. The individual (in any society in which punitive contingencies for violent actions have been constructed and are being enforced) reacts to the
unavoidably numerous threats to his or her comfort and well-being with temporary increases in sympathetic activity. But, thus prepared for vigorous motor action, the individual generally cannot engage in the ‘fight-or-flight’ behavior for which he or she is prepared – mainly because of the societal censure of such actions. The ‘primitive heritage of man’ alluded to earlier is apparent in the fact that ‘people get excited’ about countless matters that somehow seem to pose a threat to their well-being and that they get excited whether or not physical actions constitute a useful means of coping with the threat.

**In summary:**

A. It is assumed that the endangerment of the individual’s well-being produces a temporary increase in sympathetic excitation. Endangerment entails: (1) the immediate experience of pain, discomfort, or debasement; (2) the experience of impending distress of these kinds; (3) the vivid anticipation of such distress; (4) the immediate experience of the removal or the impediment of a gratifier; (5) the experience of the impending removal or impediment of a gratifier; and/or (6) the vivid anticipation of the removal or impediment of a gratifier.

B. It is assumed that the magnitude of the excitatory reaction induced by the individual’s endangerment is roughly proportional to the intensity of the aversion entailed or the amount of gratification jeopardized.

**B. The Experience of Annoyance**

1. A condition of endangerment that fails to produce a discernible excitatory reaction, regardless of any motor reaction evoked, is unlikely to be experienced as an acute annoyance by the individual.

   The first proposition simply expresses the dependence of annoyance as an emotional experience on an appreciable excitatory reaction: Such a reaction is necessary.

2. A condition of endangerment that evokes a specific motor response and a discernible excitatory reaction, and that is recognized as a threat, will produce the experience of annoyance. The intensity of this experience is determined by the magnitude of the excitatory reaction. If the motor reaction reflects the tendency to act on the condition apparently creating the annoyance so as to reduce or terminate this experiential state, the individual will appraise his or her feelings as anger. If the motor reaction reflects the tendency to avoid or withdraw from the condition apparently creating the annoyance, the individual will appraise his or her feelings as fear. If the individual deems his or her feelings and course of action appropriate, he or she will continue to respond angrily or fearfully. If they are deemed inappropriate, the individual will inhibit the motor reactions in question and experience a reduction of excitedness.

In this proposal it is assumed that the stimuli that constitute a condition of endangerment are unambiguous and evoke mainly learned motor responses. The motor response may be expressive only (e.g., reactions in the facial musculature) or may involve target-specific actions (e.g., warding-off motions with the arms and hands). The acquired response may also be one of alert motor readiness, however. Unlearned and learned motor reactions should occur without appreciable latency. Once they have occurred, they are subject to appraisal.
3. A stimulus condition that evokes a marked excitatory reaction without eliciting specific motor reactions will produce a state of acute response ambiguity that, in turn, will motivate the individual to appraise his or her experiential state. Specifically, it will motivate him or her to determine a cause for the excitatory reaction, and this process of determination is likely to result in the attribution of this reaction to a particular inducing stimulus condition. If the stimulus condition is construed as an endangerment, the individual will experience annoyance. The intensity of this experience of annoyance is again determined by the magnitude of the excitatory reaction.

The proposal that in ambiguous response situations, the threat status of a stimulus condition is arrived at through inferential processes implies that prior to the threat attribution, the stimuli were too ambiguous to permit the individual to display habitual modes of responding in annoyance. Once the attribution is made, the individual may resort to learned coping responses.

Regarding the ambiguous induction of excitatory reactions, it is conceivable of course that the individual will erroneously attribute a particular reaction to an endangerment. In such a case, the individual might experience annoyance when he or she should not. Or if there is a basis for annoyance, the individual may attribute his or her reaction to the actions of the wrong person and then retaliate against this presumed annoyer. In short, the individual may not be a reliable judge of the causes of his or her excitatory reaction and may often misattribute excitation and misrespond emotionally as a consequence.

C. Behavioral Implications of Annoyance

The intensity of actions and the harm inflicted through them appear to depend on at least two principal factors: impulsiveness and immediacy. The way in which impulsive vs. appraisal-guided and immediate vs. delayed hostile and aggressive actions are likely to differ is expressed in the following propositions.

1. The vigor of an annoyance-motivated hostile or aggressive reaction that is evoked by an unconditional or conditioned stimulus condition is a simple function of level of excitation. To the extent that vigor furthers the individual’s capacity to inflict harm and injury, the amount of harm and injury inflicted is approximately proportional to the magnitude of the excitatory reaction associated with the annoyance suffered.

This first proposition covers impulsive hostility and aggression. Such behavior, by definition, is not cognitively mediated. As a consequence, it can be ‘blindly’ vigorous, or it can be instrumental but cause devastation far beyond that required for its instrumentality. A severely annoyed and angry person may, for example, ‘pound the walls’ in rage and thus express his anger without affecting the conditions responsible for his experiential state. On the other hand, a guardian may be so enraged about a mishap caused by a child that he brutally beats and injures the child – a reaction that is certainly not justifiable as an act to terminate an acute annoyance. Or in a similar vein, a student who has been provoked by her roommate may display a bout of temper in which she destroys much of her annoyer’s property. In such an outburst, a proportionality between the intensity of an annoyance and the amount of harm and injury inflicted depends largely on the involvement of tools and weapons. Obviously, the use of mechanical aids in hostile and aggressive behavior removes any correspondence between level of excitation and amount of harm inflicted. A capacity for vigorous action, for example, is essential for punching and kicking, even for clubbing and stabbing, but not for pulling the trigger of a gun. As tools and weapons become involved in impulsive hostile and aggressive actions, the suffering inflicted upon an annoyer (and possibly on bystanders as well) is likely
to get out of hand and regarding the behavioral objective of diminishing or abolishing an acute annoyance, to be very much in excess of the amount necessary to terminate the annoyer’s action.

2. The intensity of an annoyance-motivated hostile or aggressive reaction that is mediated by an appraisal is proportional to the magnitude of the excitatory reaction associated with the annoyance suffered only if the defensive or punitive action in question accords with moral considerations. If the individual anticipates social reproach for such action, the intensity of hostile and aggressive behavior will be below the level to be expected on the basis of proportionality with his or her excitatory reaction; if he or she anticipates social approval, the intensity of hostile and aggressive behavior may be above that level. This anticipation-mediated correction diminishes as excitation increases to extreme levels.

3. If defensive or punitive actions cannot be carried out at the time of acute annoyance and anger, an appraisal – especially the moral considerations that it entails – may urge punitive action at a later time. The deferred punitive actions may then be applied when opportunities arise. The intensity of hostile and aggressive measures in deferred punitive actions tends to be proportional to the magnitude of the excitatory reaction associated with the annoyance suffered. However, because the deferred punitive action is characteristically taken when excitation is not at very high levels, the hostility- and aggression-reducing correction based on the anticipation of social reproach and approval should generally be applied.

In these latter propositions, appraisal-mediated hostile and aggressive actions are characterized as punitive when they are not instrumental in the alleviation of an acute annoyance. Deferred actions are usually devoid of such instrumental value. At best, they can be regarded as instrumental in functioning as a deterrent in future encounters with the annoyer. It appears likely, however, that hostile and aggressive actions that do not directly serve the individual’s well-being (i.e., alleviation of aversion) are motivated by moral considerations. Punishment seems to be applied not so much as a defensive measure as ‘to get even’ with an annoyer.

In his pioneering investigation of homicide, Wolfgang (1958) noted that the slaying of spouses and lovers was significantly more violent and cruel than other killings. Victims who had been intimately linked with their assailants tended to be shot and stabbed more often or otherwise mutilated to a greater degree than other victims. Although it can only be speculated that the more violent and cruel murders occurred when the assailant was experiencing exceedingly high levels of excitation, this observation is entirely consistent with the contention that the greater the endangerment, the greater the resulting annoyance and ultimately, the more intense the hostile or aggressive behavior. The closer a person is (or was) to his or her spouse or lover, the greater the gratification he or she presumably provided; and as this greater gratifier is lost or seen to be threatened annoyance of higher intensity should develop and motivate more violent assaults. Greater love, because it produces greater satisfaction, is thus, in a conflict situation, converted to greater hate and greater violence. A person who has little to lose, in contrast, should be able to contain his or her destructive inclinations more easily.

Zillmann’s (1979) Excitation-Transfer Theory of Hostility and Aggression

Essentially, excitation-transfer theory is the application of the three-factor theory of emotion to the experience of all conceivable emotional states in sequence. The theory predicts under what conditions residues of sympathetic excitation from a preceding emotional state,
whatever that state may be, will intensify a subsequent emotional state, whatever that state
may be.
The transfer paradigm is based on the following assumptions:

1. Regarding emotions, the interoception of excitatory reactions is generally nonspecific. This
interoceptive nonspecificity is largely due to a high degree of nonspecificity of the excitatory
reactions themselves.

2. The individual can determine the intensity of his or her excitatory reaction through
interoception. However, only comparatively gross changes in the level of excitation will draw
the individual’s attention and produce an awareness of his or her state of excitation.

3. The individual relates an excitatory reaction of which he or she becomes aware to the
apparent inducing condition and recalls this connection at later times.

4. The individual generally does not partition excitation compounded from reactions to
different inducing conditions. More specifically, the individual does not identify all factors
that contribute to an experienced state of excitation; nor does he or she apportion that
excitation to the various contributing factors. Instead, the individual tends to ascribe his or her
entire excitatory reaction to one particular inducing condition.

5. Intense excitatory reactions do not terminate abruptly. Because of slow humoral processes
involved in the control of sympathetic excitation, excitation decays comparatively slowly.
Residues of this slowly decaying excitation, then, may enter into subsequent, potentially
independent experiential states.

Whereas these assumptions apply to transfer to and from any emotional state, the following
propositions are specific to annoyance, anger, and aggressiveness. The more general transfer
propositions can be found elsewhere (Zillmann, 1978).

1. Given a situation in which: (a) an individual responds to an endangerment and appraises his
or her reactions as annoyance; (b) he or she experiences a level of sympathetic arousal that is
still elevated from prior stimulation; and (c) he or she is not provided with apparent extero-
and/or interoceptive cues that would indicate that this arousal results from prior stimulation,
excitatory residues from prior arousal will combine inseparably with the excitatory response
to the endangerment. As a consequence, these residues will intensify the experience of
annoyance, and to the extent that the individual seeks to resolve his or her annoyance through
hostile or aggressive behavior, these residues will intensify such behavior.

2. The experience of anger and hostile or aggressive behavior will be enhanced in proportion
to the magnitude of the prevailing residual excitation.

3. Both the period of time in which transfer can manifest itself and the magnitude of
transferable residues are a function of: (a) the magnitude of the preceding excitatory response,
and/or (b) the rate of recovery from the excitatory state.

4. The individual’s potential for transfer is: (a) proportional to his or her excitatory
responsiveness, and (b) inversely proportional to his or her proficiency to recover from
excitatory states.
The Formation of Hostile and Aggressive Habits (Zillmann, 1979)

Incentive-motivated hostile and aggressive behavior patterns emerge and are strengthened as they prove successful in the attainment of rewards, and they are weakened as they fail to accomplish this objective or as they prompt punishment. Analogously, annoyance-motivated hostile and aggressive behavior patterns emerge and are strengthened as they effectively terminate annoyances, and they are weakened as they fail in this regard or produce further annoyance.

According to three-factor theory, the intensity of an unambiguous emotional experience is a simple function of prevailing sympathetic excitation. The intensity of the experience of annoyance is thus seen to vary with changes in sympathetic activity. Any decline of sympathetic activity is expected to effect a reduction in the intensity of experienced annoyance. This excitation-mediated reduction of the intensity of annoyance, then, constitutes relief. It is assumed that any appreciable reduction of the intensity of an acute annoyance is experienced as relief.

The following propositions employ this conception of relief:

1. Any response that is performed in a state of acute annoyance and that is followed by relief is reinforced.

2. Relief is conditioned to the proprioceptive stimuli of any response that is performed in a state of acute annoyance and that is followed by relief.

3. Any course of action that is taken in a state of acute annoyance and that is followed by the experience of relief is strengthened, and the likelihood of its occurrence increases.

4. Any course of action that in the past has been followed with some regularity by the experience of relief evokes the anticipation of relief and initiates relief.

5. The attribution or misattribution of the experience of relief to a particular course of action establishes a causal or pseudocausal connection that, in the control of behavior, dominates the effect of any competing learned associations. In the absence of the conscious experience of relief and the attributional considerations it is expected to prompt, relief and its implications are governed by learning mechanisms.

The ontogenetic implications of this model of habit formation are straightforward: Those responses to annoyance into which the individual, especially the child, is frequently coerced or that he or she frequently performs for whatever reason are most likely to develop into coping habits. This is because arousal eventually has to dissipate – if for no other reason, to achieve homeostasis. A reinforcing ‘drive reduction’ or the experience of relief thus must follow, in principle, any activity performed by the individual. Notwithstanding the fact that activities may differ greatly in their capacity to accelerate or delay the annoyance-draining decay of excitation, relief will follow annoyance and strengthen the behavior performed during annoyance regardless of its character. If fighting is repeatedly followed by relief, habits of fighting will be formed, and they will be maintained if fighting continues to lead to relief. If withdrawal and submission are repeatedly followed by relief, submissive habits will be formed, and if they continue to provide relief, they will be maintained. Even doing nothing about an annoyance, that is, letting it pass or hoping for a resolution through the intervention
of a third party, should develop into a habitually practiced coping reaction. The latter conditions manifest Scott’s (1958) principle of the passive inhibition of aggression: If hostile and aggressive modes of reaction are not practiced, they are not reinforced, and hence they cannot grow into strong habits.

The intriguing aspect of this reasoning is that in coping with annoyance, hostile and aggressive reactions are not necessarily superior to nonhostile or nonaggressive reactions. In fact, because in contemporary society, hostile and aggressive reactions usually entail a greater risk of endangerment through direct reprisal or social reproach, and because they also tend to be higher in cost than non-hostile and nonaggressive reactions, the former type of response may be viewed as less intelligent and less adaptive than the latter type.

Rummel’s ‘Social Field’ Approach to Aggression: Power, Force, and Aggression

Rummel (1977), reasoning within the perspective of his social field approach – that is, within a framework of social potentialities, dispositions, powers, and manifestations – distinguished several forms of aggression.

First, aggression is ontologically a manner or style of becoming – it is disposed to be, becoming, or being offensive; that is, a disposition, power, or manifestation characterized by assault, attack, invasion. The core notion is of a forceful setting upon, either as tendency or behavior. The antonym of aggression is defensiveness, which is being protective and reactive. To assault or attack does not necessarily mean to engage in physical or violent action, for we can cast an aggressive eye at a party, invade a person’s quiet, or attack another verbally without threatening or inflicting physical harm or injury. Social scientists tend to see aggression as murder, fighting, war, and hitting as the many possible kinds of violence and destructiveness. Equating such behavior with aggression misses the subjective nature of aggression and focuses on physical characteristics and apply only to some forms of aggression in some cultures. A raised eyebrow, a deliberately missed appointment, or a stare can be more aggressive in some cultures than a violent shove in others.

Moreover, defining aggression by objective behavior (or a tendency toward such) ignores the two-sidedness of violence. One can beset another with violence, or violence can be used to defend oneself. Is the man who attacks and fights off a thug aggressive? Is the nation that defends its borders against invasion aggressive? Is a girl who kicks a rapist in the groin aggressive? Of course not. Yet, most definitions of aggression equate all acts of violence, defensive and otherwise. To be aggressive is to be offensive. No particular kind of behavior or power is meant. Aggression is a style. It can permeate all a person’s behavior, or it can color none.

With this understanding, Rummel then relates aggression to power in its various form. He points out that power – a vector toward manifestation, a pushing toward completion, specificity, determinateness – has many forms. There is identive power – the unintended manifestation of being. An aspect of existing, and confronting the powers of nature, identive power can be aggressive. We can imagine an aggressive storm that unleashes its fury, an aggressive shark that tears apart a swimmer, an aggressive dog that chases anything that moves, or an aggressive child who disrupts a household. This is identive aggression, the offensive setting upon the environment as part of being. Not all things assail or attack reality with their power. A chair, a pebble, a path are passive, defensive. Their power declares their identity, confronts other powers, but does not push outward and invade the being of others.
Identive aggression is a part of interpersonal relations. Unintended, it is not social. It is personal, a thrusting power of physique, character, or behavior; a style in which nature’s multifold actualities are unconsciously realized. Thus we speak of aggressive beauty, dominating personality, or besetting behavior.

Aggression, however, may be intended. We may purposely act in an aggressive manner toward others physically, toward their selves, or toward the environment. Intended power directed toward the environment is assertive. If such power is offensive, an attacking of one’s surroundings, it is assertive aggression. It is a form of self-assertion, a purposive expression of self. A boy walking through the fields happily hacking off flowers with a stick is assertive in this manner, as is the hunter tracking deer or the person smashing an outworn desk with a sledge hammer to make kindling. The fundamental notion is of attacking the environment intentionally.

Most often self-assertion is thought of in terms of asserting oneself against others, either as putting up a vigorous defense, expressing one’s interests, or opposing the invasion of one’s rights. The term also has the positive meaning of ‘making a dent’, of confronting and overcoming, of pushing against and forward. All these meanings represent different forms of power. In addition, assertion may be offensive or defensive. To label all self-assertion a type of aggression (whether called benign or positive) is to confuse the grim, willful determination of a lone survivor in a lifeboat at sea – displaying a passive form of self-assertion – with the aggressive assertion of a man chopping down a tree. Assertive aggression is offensive power intentionally directed toward man’s environment. Another form of power, thus of aggression, is intentionally directed toward another’s body. This is force, the use of physical power to manifest one’s interests against another. The other’s self is ignored, indeed, force is applied to achieve some purpose in spite of or over the opposition of the other self. Forceful aggression which usually involves violence but not necessarily injury to another, is the offensive use of force. For example, Germany’s attack on Poland in 1939, Japan’s attack on Pearl Harbor in 1941, and North Korea’s attack on South Korea in 1950 were forceful acts of aggression. The guerrilla band that attacks a police station or the police forces that attack demonstrators with clubs are using aggressive force.

Force, however, may be nonaggressive. It may be defensive, as when a nation resists invasion, as the Soviet Union did in 1941-1943. Also acting defensively is the storekeeper who rigs the back door of his store with a booby trap to prevent theft or vandalism.

Not all force, therefore, is aggressive. Some mistakenly equate force, fighting, and violence with aggression, but this is to ignore the positive and protective uses of force – for example, to defend a person’s freedom, independence, and deep, personal values against others.

So far, Rummel has considered only nonsocial aggression that is directed unconsciously or intentionally against the environment or others’ bodies. Social power is a vector toward manifestation through another self, of which there are six forms: coercive, bargaining, intellectual, authoritative, altruistic, and manipulative. Each form can be offensive or defensive; each can be an invasive, thrusting power, or a reactive, defensive opposition. Let us consider coercive aggression first.

Coercion is the use of threats or deprivations to induce another to do what he would otherwise not do. The physical violence used is instrumental in pressuring another’s will to yield. He who initially attacks another physically or with threats is coercively aggressive if this behavior is directed at another’s self. But coercion also can be defensive, as when a child threatens to scream if spanked, a popular president threatens to resign if the military intervene in politics, or a nation threatens nuclear retaliation against the cities of a possible attacker. Coercion emphasizes threats or deprivations. Bargaining power, on the other hand, is manifested through promising rewards to another self. Bargaining power can be aggressive.
Here we have social aggression not characterized by physical force or violence, although it has the same core meaning as the most aggressive destructiveness – that is, to set upon, to assail or assault, to attack another. We all have experienced this kind of aggressive bargaining, whether from a door-to-door vacuum cleaner salesman or from a hawker at a county fair.

Intellectual power, the use of expertise or persuasion to manifest one’s interest through another self, is clearly aggressive in the attack on the ideas or competence of another, or in the invasion of another’s beliefs with an army of facts and arguments marshalled to change the other’s notion. Such is the intellectual aggression of the missionary, the dogmatic and outspoken scholar, or the ‘expert’ who makes a career out of besetting others with the virtues of a single technique. Authoritative power appeals to our concept of what is right, proper, correct – legitimate. This is the power of the public official, of the judge, of the bishop, of the boss in any occupational hierarchy, to have others do what he wants by virtue of his position. And authoritative power can be aggressive: witness the police who invade a citizen’s home to search for narcotics, the secret police who forcibly remove a suspect to an interrogation center, or the ‘hanging judge’ who with all the sanctions at his disposal, attacks crime. Moreover, authoritative aggression occurs whenever the authority conferred by position is used to set upon or attack subordinates.

Altruistic power is the ability to generate, through another’s love or altruism, positive interests in the direction of one’s own. Altruistic aggression is the attacking of others on the basis of this love. The love for a leader, for mankind, for God, has been the basis of attacks on others. The love of a Christian God in part led to the Crusades, and today we have the altruistic – mankind-loving – aggression bound in such ideas as ‘ending capitalist exploitation’, ‘ending tyranny’, ‘creating social justice’, and ‘overthrowing the system’. Guerilla attacks, terrorism, political assassinations, and religious wars have their basis in the induction of some political formula, some solution to man’s ills. Today’s ideological wars are altruistic combat among visions of the good life. And the inductive power of a political leader lies in his ability to connect the love of man for his species, God, or country, to the formula he provides.

Altruistic aggression is not limited to collective action. Through the love of his mistress, a man may induce her to kill his wife; through the love of her child, a mother may heed his cries for help and attack his assailant; and through the love of his country, a man may be induced to assassinate a president.

Finally, there is the aggressive style of manipulative power, the control over potentialities or opportunities. Manipulative aggression is then such offensive control. For example, propaganda may lead a person to hate, to attack members of another group, class, or race. Indoctrination may cause a person to assail an evil economic-political system. Desire for control over a situation may provoke a person to attack another, as when a sergeant deliberately goads a private until, tired, frustrated, and angry, he strikes out at his tormentor, thus providing a legal basis for a court martial. The enlisted man aggressed, but it was a manipulated aggression.

In sum, aggression is a style, an offensive manifesting or manifestation of power. It is inseparably linked to and takes on the form of power. Thus we can speak of identive, assertive, or forceful nonsocial aggression; or of coercive, bargaining, intellectual, authoritative, inductive, or manipulative social aggression. These pure forms, of course, are rarely manifested singly. Most situations reflect a combination of aggressive forms, with perhaps one dominating. Thus the military attack of one nation on another can manifest coercive aggression (an attempt to change the will of the nation opposing the demands of the first), forceful aggression (an attempt to bypass the other’s will and to eradicate his capability
to resist), manipulative aggression (in whipping up hostile sentiment), and altruistic aggression (in inducing men to fight in the belief that man’s welfare would be improved if the battle were won). Revolutions are similarly such a mixture. Aggression seen in this light shows the simplicity of arguments that it is environmental, instinctual, or due to frustration. Multidimensional and multifold, tied to the various forms of power, aggression is a complex of different forms melded in a single act. Let us see how aggression, so understood contrasts with some conventional views.

Q. Does aggression involve hostile injury or harm to another?

A. Hostile injury or harm is neither a sufficient nor necessary condition for aggression in Rummel’s terms. In defense against a mugger, for example, one may inflict hostile injury. Moreover, injury or harm may or may not be involved even in forceful or coercive aggression, as well as the other forms of power. In other words, injury and violence may occur, but there is no synonymy between such occurrences and aggression. The focus in the literature on aggression as harm or injury (without considering whether it is defensive) is a focus on secondary and partial phenomena, like a study of the nature of an elephant that concentrates on the waves it makes in a pond.

Q. Does aggressiveness comprise hostility or anger toward another?

A. Not necessarily. As a style of manifesting power, no particular emotion may be involved. Aggression may be instrumental. Again, it may be the one acting defensively, protecting himself or his values, who is hostile or angry. To be sure, assertive aggression can involve attacks on others manifesting paranoidal hostility. But this is not to say that aggression always comprises hostility.

Q. Is certain behavior aggression, such as physically attacking another, invading another’s territory, or assaulting another with a club?

A. Not necessarily. What is offensive as apart from defensive or neutral behavior is culturally and situationally defined. Placing a man on a table and cutting him open with a knife may be surgery, religious sacrifice, a warrior rite, or torture. Striking another with a club may be a sport, an attack, or a defense. In some cultures merely crossing another man’s shadow is interpreted as an act of aggression on that person’s spirit. The ultimate aggression is presumed to be killing another, yet such activities as carrying the old to a secluded spot to die, infanticide and euthanasia have been culturally sanctioned as neutral behavior. Even within the same culture, there are different views of what constitutes killing. Witness the debate over abortion, a practice that some feel is an act of aggression against a living fetus. The focus on an objective behavior to define aggression is to commit the typical behavioral physicalistic fallacy. It is not what is physical that counts to man, but rather the perspective through which he manifests reality, the meanings and values this reality has for him.

Q. Is aggression, then, an intention to do harm?

A. Aggression can be intentional, but some acts occur unconsciously as in the identive aggression of a crying, kicking infant. Moreover, the intent to do harm can exist without the quality of being offensive, as in a police unit defending itself against a guerrilla attack. In short, aggression as the offensive manifesting of power can be, but is not necessarily, instrumental nor intentional, and it may involve anger and hostility, injury and
destructiveness, or certain acts or actions, although these might not be present. It is this subjective, multidimensional, multiform nature of manifest aggression that scientists and scholars have seen and defined differently. The latent definition underlying this variety, the core meaning in aggression, is as a vector of power toward offensive manifestation (Rummel, 1977).

**Attitudes and Interests**

It is within the dynamic calculus of attitudes that man’s sentiments and roles lie. Whereas the needs define man’s id, the attitudes are organized into an integrated self, reality oriented (ego) and morally conscious (superego), that direct action toward the superordinate goal of self-esteem. The ego is formed through transactions with social reality, and the superego embodies cultural values and morality.

It is within this dynamic system of attitudes that cultural learning and experience play their roles. Mankind shares the same needs, but not the same culture or experience. Environment shapes the attitudes that will gratify needs. The same protective need may be gratified through fifteen years of close supervision and training of the child in one culture, and casting him off at age ten in another; it may be satisfied through forced missionary conversion of heathens, or through respect for different beliefs. The same security need can be stimulated by fear of a shaman, a god, inflation, or nuclear war.

Events, objects, and situations take on subjective meaning depending on the cultural matrix through which we interpret reality, and on our personal history. A pugnacity need may be gratified by sticking pins in an enemy’s effigy, making a culturally indecent gesture toward him, purposely stepping on his shadow, spreading malicious gossip about him, or belting him one. Thus it is incorrect to characterize a need by certain specific acts. A need is reflected in certain emotions, such as fear, pity, and pride. How these emotions and underlying needs work themselves out in behavior depends on the attitudinal interface developed through culture and experience. Certain types of attitudes, nonetheless, connect to specific needs, otherwise these needs could never be identified. For example, pugnacity connects to attitudes involving attacking and fighting others. The precise behavior, however, whether stomping on someone’s flower garden or kicking the person in the shins, is a matter of individual learning.

As any academic soon learns, there are many ways of attacking and cutting up a rival without lifting a finger in anger.

Here we have the heavy hand of culture and the precise mechanisms of social learning. Through both, man may develop aggressive (offensive) attitudes – aggressive goals and means – which gratify his needs and are a danger to himself and others. On the other hand, he may learn to gratify his needs in part through ‘benign’ aggressive attitudes and the replacement of aggressive means-goals linkages with solidary, conciliatory, consensual attitudes (Rummel does not mean to imply that this is desirable in some larger ethical sense. To seek justice and the Good may require some aggressive attitudes. Cultures may stagnate and man may be impotent without some channels for aggressive individuality).

Most important, such attitudes are organized into a reality-testing, moral self striving for self-esteem. Much depends on what the esteem is based on. If, for a gang member, it is his ability to beat up an old lady, his esteem will be linked to such aggressive attitudes, and this aggression will be an integrated part of his behavior. A soldier in combat whose self-esteem is linked to his buddies’ opinion of him, may be an aggressive killer of the enemy in striving for approval. If esteem is tied to command and coercive power over others, one may ape the more successful and aggressive villains in movies and television.

The keys to understanding environmentally based aggression are man’s dynamic attitudes as they are integrated into a self striving for esteem. Intentional aggression occurs at the level of
attitudes. Whether aggression is assertive, coercive, bargaining, authoritative, inductive, and so on, is a matter of the intentions, of the goals and means, of the self. Identive aggression is unconscious, a manifesting of being. Intentional aggression is goal directed, involving acts and actions, reason and morality. What then is the connection between temperament, needs, and attitudes? Temperament is the style of our reflex behavior, of our practices (custom, etiquette), and of achieving our goals. Our goal, for example, may be to dominate another, but we may do so simply by character. Thus temperament, which is partly hereditary, partly influenced by environment, helps fashion the manifesting of our interests. Needs, however, energize attitudes and drive man to gratify them. Pugnacity, self-assertion, security, protectiveness, and narcissism may provide inherent aggressive urges, but the attitudinal means-goals and their scope and intensity linking these needs to acts or action is a matter of learning and culture. And these attitudes are under the control of a self and will striving for self-esteem (Rummel, 1977).

**Perception**

Man’s perception is a dialectical outcome of a confrontation between reality’s powers bearing on him and his outward directed perspective. An aspect of this perspective consists of the cultural schema and meanings-values-norms through which stimuli are interpreted. There can be no perception without interpretation. And through this interpretation man contributes to manifesting the dispositions of reality. We are not born with a way of perceiving reality other than with our physiological equipment. Since perception is a meaning-endowing process, it is gradually learned through man’s culture and by trial and error. Moreover, the process does not end with interpretation through the cultural matrix. What is interpreted automatically, unconsciously, becomes a conscious percept only within the total psychological field. Field forces may alter perceptions to maintain cognitive balance, to conform with a person’s hopes, wishes, or preconceptions, or to contribute to defensive delusion or projections. We often see what we want to see.

Clearly, perception is crucial to understanding aggression. For offensive behavior is directed toward a situation, and the direction and nature of that behavior depend on our perception of that situation. Needs are partly energized from within (a growing hunger, an increasing sexual desire), partly stimulated from without (the smell of bacon cooking, seeing an erotic movie). But stimulation requires perception, and this becomes a matter of interpretation and the forces bearing on perception within the field. One man’s pugnacity may be aroused by a perceived slur on his race, another by the perceived surliness of a clerk, a third by the perceived inconsiderateness of another driver. We interpret and thereby transform our world. And the world we create may be peopled by insults, threats, aggressiveness to which we respond with fear, pity, anger. But the world is partly of ourselves, of our culture and experience melded through the psychological field into our reality-transforming perspective (Rummel, 1977). Normally nonaggressive people become quite aggressive if they perceive threats to their security, attacks on their values, or slurs on their self. But they must learn what constitutes a threat, an attack, or a slur. What interest will thereby become engaged, whether to attack, to defend, to flee, to ignore, is a matter of the perceptual linkage of these interests to the situation.

With temperament, too, the case is similar. Man’s character is manifested in behavior that is situationally directed and linked. Whether it is a matter of aggressively dominating others or reacting with paranoidal hostility, the object of such behavior must be perceived. Again, a particular interpretation of reality will influence the direction of such behavior. By character, we may aggress against those above us in a hierarchy but cooperate with those below us who,
we perceive, accept our status. By character, we may be hostile to those perceived to be ‘out to get us’. And by character, we may bully those who, in our perception, are weak and ineffectual. Perception is the interface between man and external reality. It is the matrix through which man’s innate and character-rooted aggressiveness is transformed.

**Expectations**

Within any situation, man is disposed to behave in a certain way, depending on his needs, interests, temperament, and moods and states. The nature of these dispositions depends on the behaviors available to him in his behavior space. How he does behave, however, is a matter of the expectations that weight his choice. Like behaviors, expectations are wholly learned. They are norms, customs, implicit rules of behavior, social roles, that are forged through experience and trial and error. Through social learning a person comes to expect reward or punishment from certain behaviors, and these expectations weigh on his behavioral dispositions. Although disposed to behave aggressively, a person may act differently because he fears expected criticism, ostracism, or a public scene. On the other hand, although not disposed to behave aggressively, a person may select such behavior because of the respect and prestige (as with a gang member) he believes would thereby incur. In either case, a person may behave aggressively or nonaggressively as we anticipate such behavior from others (Rummel, 1977).

**The psychological field of aggression**

That instincts produce aggression, that drives generate aggression, that learning creates aggression – each proposition, standing by itself, is a simplistic theory. All dimensions are present to some degree and are simultaneously part of a field of relationships and dynamic forces that can modify, dampen, or inflate aggressive impulses, attitudes, and behavioral dispositions. The whole is a complex of perception, personality, behavioral dispositions, and expectations. To emphasize one without the others within the field is to forget that man is always a feeling-thinking-doing, integrated totality.

This means that pugnacity or self-assertion or protectiveness may be aroused, but no aggression may occur because the self wills otherwise, because no triggering situation is perceived, because expectations suggest defensive behavior, or because one’s mood is inappropriate. On the other hand, a person may act aggressively even though such needs are satiated, because it is in his character to do so in the perceived situation. Finally, needs or character aside, a person may act aggressively in the pursuit of his superordinate goal. Aggression may be a learned instrumentality for achieving self-esteem, for striving upward. To understand aggression as the offensive manifesting of interests, therefore, is to understand man as personality-situation-dispositions-expectations, as needs-attitudes-interests-temperament, as id-ego-superego, as field-self-will (Rummel, 1977).

**Righteousness**

Social violence, revolution, wars usually have been seen as the outgrowth of a negative or aberrant aspect of man’s nature or relations. Selfishness, exploitation, deprivation, misperception, insecurity, frustration, ignorance, or the desire for glory have been nominated separately or together to account for social conflict. What has rarely been mentioned or discussed, however, is the positive aspect of man that contributes to social conflict. Man is certainly egoistic. His focus is usually on himself, on what will improve or enhance his status, security, independence, glory, and so on. But man is also fraternal. He thinks and
acts in terms of what is good for his family group, class, or society. He has a protective need, a drive to improve the welfare of others. The existence of this need has been clearly established in multivariate psychological research (Cattell & Warburton, 1967), but few have connected such a need to collective violence. Koestler (1967) captures an aspect of this need when he pinpoints man’s ‘integrative tendency’ – a self-transcending tendency – as the culprit. History’s holocausts result from the activities of those who fight in the hope of bettering their group, their nation, or mankind. In Koestler’s words:

“The crimes of violence committed for selfish, personal motives are historically insignificant compared to those committed ‘ad majorem gloriae Dei’, out of a self-sacrificing devotion to flag, a leader, a religious faith or a political conviction. Man has always been prepared not only to kill but also to die for good, bad or completely futile causes. And what can be a more valid proof of the reality of the self-transcending urge than this readiness to die for an ideal? No matter what period we have in view, modern, ancient, or prehistoric, the evidence always points in the same direction: the tragedy of man is not his truculence, but his proneness to delusions. ‘The worst of madman is a saint run mad’: Pope’s epigram applies to all major periods of history – from the ideological crusades of the totalitarian age down to the rites which govern the life of primates” (Koestler, 1967).

Another aspect is seen in the notion of righteous indignation, a feeling of injustice, as a cause of violence highlighted by Banfield (1970) and Lupsha (1971). As Rumml (1977) points out: our protective need links to interests specifying the sociopolitical acts or conditions that will improve the welfare of man, and casting particular blame on other groups, individuals, or the other classes for depriving man of this welfare. Focused blame connected to a political slogan is a potent situation of conflict. It is in partially defining this situation that fraternal righteousness (as opposed to the egoistic variety) plays a role. But righteousness is not the preserve of one party to a conflict. All parties may feel that they have justice and God on their side and that man’s welfare sits on their shoulders. Moral conflicts are so intense and bitter because all sides sincerely feel that they are right, and that what they are doing will better mankind. A defeat for their ideas is a defeat of man. ‘God protect us against crusaders’ is no empty slogan (Rummel, 1977).
subjectively unquestionable – a fact of our existence. Of course, not all frustrations lead to anger. Indeed, it is more common to accept frustration – the blockage of our wants and goals – as feedback suggesting that we adjust or alter our aims. We do this automatically, hour by hour, day by day. Frustration signals the error in the trial-and-error process by which we dialectically adjust our perspectives to external powers and potentialities. To live, to assert oneself, is to be hindered, to face difficulties, to be opposed (Rummel, 1977). Besides man’s desires and goals, his frustrations and anger, there are two other commonplace facts of life. Man sometimes desires or aims to injure or hurt others, and behaves in such a manner, sometimes because of his frustrations. Again, in our subjective world, these two facts are incontestable. Our awareness of them enables us to better perceive others, to adjust our interests and interactions, and to develop predictive expectations. We can then understand why on a hot day in slow city traffic, one motorist will attack another for blocking his path, why a parent whose losing bridge game is interrupted for the fifth time by a child will vigorously spank him, and why a mistress cast off by her lover will send poison pen letters to his wife.

In the late 1930’s, the commonplace enabling us to understand such behavior in certain contexts was erected into an invariant law of nature by a group of Yale psychologists (Dollard et al., 1939). First, they equated aggression with the desire to hurt or injure others. This effectively confused the various forms of aggression with one overt manifestation and confounded the bases of aiming to harm another, which may be instrumental (as in spanking a child), defensive (as in kicking an attacker), or hostile (as in spreading malicious gossip). Were one to equate love with kissing, the conceptual, cognitive confusion would be no less (Rummel, 1977).

Second, frustration was defined as interference with a goal response, thus keying frustration to an objective barrier or difficulty, and to manifest behavior. Interference was felt to be through punishment or goal inaccessibility, further confusing frustration as blockage with frustration as deprivation (Rummel, 1977; Fromm, 1973).

On this conceptual base, the Yale group put forward its famous assumption:

“This study takes as its point of departure the assumption that aggression is always a consequence of frustration. More specifically the proposition is that the occurrence of aggressive behavior always presupposes the existence of frustration and, contrariwise, that the existence of frustration always leads to some form of aggression” (Dollard et al., 1939).

They further hypothesized a direct positive proportionality between the instigation to aggression and the amount of frustration. This amount depended on the strength of the drive toward a goal, the degree of interference, and the number of frustrated responses. The resulting instigation to aggression will be directed toward the perceived agent of frustration (displacement), and the act of aggression reduces instigation to aggression (catharsis).

This formulation, which hardly stood up to theoretical and conceptual analysis, was operationally precise and, although it assumed internal drives, it was in the stimulus-response, behavioral tradition. It generated considerable laboratory experimentation and empirical research.

More than two decades of research has shown that frustration does not invariably lead to aggression, that frustration can lead to nonaggression, that aggression can occur without frustration, that in some cultures aggression is not a typical response to frustration, that some situations (such as threat and insult) can evoke more aggression than frustration, that the injustice of frustration is more significant than frustration itself, that frustration subsumes a diverse set of conditions, and that the aggression-frustration linkage need not be innate and
could be learned. What began as an exciting statement of a psychophysical law has ended with a conclusion that should have been anticipated: frustration sometimes provokes aggression; and aggression is sometimes provoked by frustration (Rummel, 1977). The widespread acceptance of the frustration-aggression notion is perhaps attributable more to its simplicity than to its predictive power. In point of fact, the formula that frustration breeds aggression does not hold up well under empirical scrutiny in laboratory studies in which conditions regarded as frustrative are systematically varied. “Frustration, as commonly defined, is only one – and not necessarily the most important – factor affecting the expression of aggression” (Bandura, 1973).